ED 40 - 437

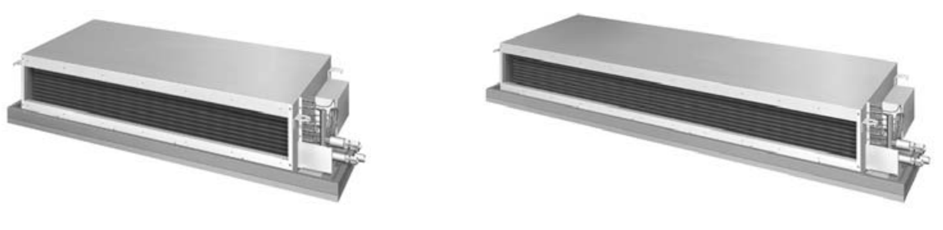
DAIKIN

Engineering Data

Packaged Air Conditioners
Duct Connection Type [50Hz]
(Middle Static Pressure Application)

FDMG-AV1(S) Series

— Cooling Only —



DAIKIN INDUSTRIES, LTD.

Duct Connection Type Middle Static Pressure Application [50Hz] FDMG-AV1(S) Series

1. External Appearance

Indoor Unit



FDMG71AV1(S)

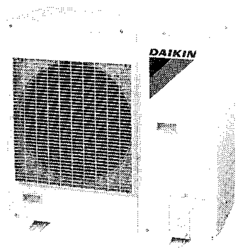


FDMG100AV1(S)
FDMG125AV1(S)
FDMG140AV1(S)

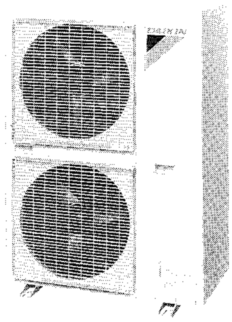


FDMG180AV1(S)

Outdoor Unit



RG71A



R100FU
R125FU



RG140A
RG180A

Remote Controller



KRC47-2
KRC47-4



KRC47-1

2. Power Supply and Nomenclature

2.1 Power Supply

2.1.1 50Hz

Indoor Unit	Outdoor Unit	Power Supply
FDMG71AV1 *	RG71AV1 *	1 phase 220–240V (2 wires)
FDMG100AV1 *	R100FUV1	
FDMG71AV1 *	RG71AY1 *	3 phase 380–415V (4 wires)
FDMG100AV1 *	R100FUY1	
FDMG125AV1 *	R125FUY1	
FDMG140AV1 *	RG140AY1 *	
FDMG180AV1 *	RG180AY1 *	

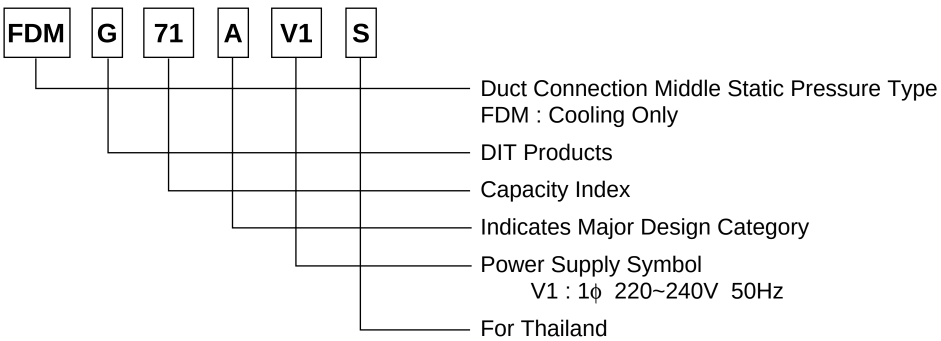
2.1.2 50Hz (For Thailand)

Indoor Unit	Outdoor Unit	Power Supply
FDMG71AV1S *	RG71AV1S *	1 phase 220V (2 wires)
FDMG100AV1S *	R100FUV1S	
FDMG71AV1S *	RG71AY1S *	3 phase 380V (4 wires)
FDMG100AV1S *	R100FUY1S	
FDMG125AV1S *	R125FUY1S	
FDMG140AV1S *	RG140AY1S *	
FDMG180AV1S *	RG180AY1S *	

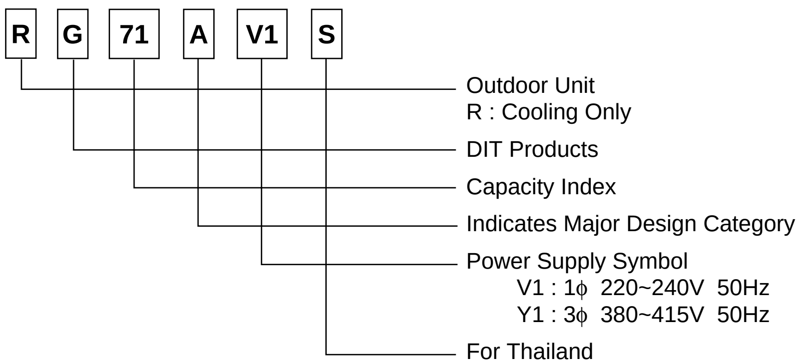
Note: 1. * : New Model or Changed Model
2. Power Supply Intake : Outdoor Unit

2.2 Nomenclature

Indoor Unit



Outdoor Unit



3. Functions

3.1 FDMG-AV1(S) Series

Points and Functions	Duct Connection Middle Static Pressure Type FDMG–AV1(S)
Switchable Fan Speed	○
Auto Restart	○
PE Fin (Outdoor Unit)	○

○ : Function Exists

4. Specification

4.1 50Hz

Item			Unit			
Model	**Indoor Unit**			**FDMG71AV1**	**FDMG100AV1**	**FDMG125AV1**
	Outdoor Unit		**V1**	**RG71AV1**	**R100FUV1**	**—**
			Y1	**RG71AY1**	**R100FUY1**	**R125FUY1**
∗1 Cooling Capacity ∗2 (1)/(2)/(3)			kW	8.8 / 8.7 / 7.1	10.6 / 10.5 / 8.0	13.1 / 12.9 / 11.2
			Btu/h	30,000 / 29,600 / 24,300	36,100 / 35,700 / 27,300	44,500 / 43,600 / 38,200
			kcal/h	7,600 / 7,500 / 6,100	9,100 / 9,000 / 6,900	11,200 / 11,000 / 9,600
Indoor Unit				**FDMG71AV1**	**FDMG100AV1**	**FDMG125AV1**
Dimensions		H×W×D	mm	305×1,350×680	305×1,550×680	305×1,550×680
Coil	Type			Cross Fin Coil		
	Row×Stages×Fin Pitch			3×12×1.75	3×12×1.75	3×12×1.75
	Face Area		m²	0.290	0.340	0.340
Fan	Type			Sirocco Fan		
	Motor Output		W	125	225	225
	Rated Air Flow ∗3		m³/min	23	34	37
	Rated Ext. Static Pressure ∗3		mmH_2O	8.5	10.1	9.8
Mass (Weight)			kg	43	51	52
Piping Connections		Liquid	mm	ϕ 9.5 (Flare)	ϕ 9.5 (Flare)	ϕ 9.5 (Flare)
		Gas	mm	ϕ 15.9 (Flare)	ϕ 19.1 (Flare)	ϕ 19.1 (Flare)
		Drain	mm	3 / 4 B (O.D.ϕ27.2 I.D.ϕ21.6)	3 / 4 B (O.D.ϕ27.2 I.D.ϕ21.6)	3 / 4 B (O.D.ϕ27.2 I.D.ϕ21.6)
Remote Controller		Wired		KRC47-1 KRC47-2 KRC47-4	KRC47-1 KRC47-2 KRC47-4	KRC47-1 KRC47-2 KRC47-4
		Wireless		—	—	—
Outdoor Unit			**V1**	**RG71AV1**	**R100FUV1**	**—**
			Y1	**RG71AY1**	**R100FUY1**	**R125FUY1**
Color				Ivory		
Dimensions		H×W×D	mm	816×880×370	1,215×880×370	1,215×880×370
Coil	Type			Cross Fin Coil		
	Row×Stages×Fin Pitch			2×36×2.0	2×54×2.0	2×54×2.0
	Face Area		m²	0.642	0.962	0.962
Comp.	Model		V1	H23A35QABKA	H23A46QABKA	—
			Y1	H23A35QDEEA	H23A46QDBEA	H23A56QDBEA
	Type			Hermetically Sealed Reciprocating Type		
	Motor Output		kW	2.2	3.0	3.75
Fan	Model			P45J11SM	P45J11SM	P45J11SM
	Type			Propeller		
	Motor Output		W	50	75+35	75+60
	Air Flow Rate		m³/min	46	80	87
Mass (Weight)		kg	V1	87	117	—
			Y1	84	109	110
Piping Connections		Liquid	mm	ϕ 9.5 (Flare)	ϕ 9.5 (Flare)	ϕ 9.5 (Flare)
		Gas	mm	ϕ 15.9 (Flare)	ϕ 19.1 (Flare)	ϕ 19.1 (Flare)
		Drain	mm	ϕ 26.0 (Hole)	ϕ 26.0 (Hole)	ϕ 26.0 (Hole)
Safety Devices				Thermal Protector for Compressor, Outdoor Fan Motor and Indoor Fan Motor. High Pressure Switch. Over Current Relay (Compressor). Reverse Phase Protector. Fuse.		
Capacity Step			%	100–0	100–0	100–0
Refrigerant Control				Capillary Tube		
Ref. Piping	Standard Length		m	5	5	5
	Max. Length		m	50 (Equivalent Length 70m)	50 (Equivalent Length 70m)	50 (Equivalent Length 70m)
	Max. Height Difference		m	30	30	30
Refrigerant	Model			R22	R22	R22
	Charge		kg	2.4 (Factory Charge for 5m)	2.4 (Factory Charge for 5m)	2.8 (Factory Charge for 5m)
Ref. Oil	Model			Refer to the name plate of compressor.		
	Charge		L	1.48	1.63	1.63
Drawing No.				3D048714		

Note: ∗1. The above data are based on the following conditions.

	Cooling	Piping Length	Hz, Volts	Standard
(1)	Indoor: 27°C(81°F)DB, 19.5°C(67°F)WB Outdoor: 35°C(95°F)DB, 24°C(75°F)WB	5m (Horizontal)	50Hz, 220–240V (380–415V)	—
(2)	Indoor: 27°C(81°F)DB, 19.0°C(66°F)WB Outdoor: 35°C(95°F)DB, 24°C(75°F)WB	5m (Horizontal)	50Hz, 220–240V (380–415V)	—
(3)	Indoor: 29°C(84°F)DB, 19.0°C(66°F)WB Outdoor: 46°C(115°F)DB, 24°C(75°F)WB	7.5m (Horizontal)	50Hz, 240V (415V)	SSA 385/386

∗2. Capacities are gross, including a deduction for cooling for indoor fan motor heat.
∗3. Please see fan characteristic documents in detail.

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3414 cfm=m³/min×35.3

Model					
Model	Indoor Unit			**FDMG140AV1**	**FDMG180AV1**
	Outdoor Unit			**RG140AY1**	**RG180AY1**
*1 Cooling Capacity *2 (1)/(2)/(3)			kW	14.5 / 14.2 / 12.3	17.2 / 16.8 / 15.1
			Btu/h	49,400 / 48,400 / 42,000	58,700/ 57,500 / 51,600
			kcal/h	12,500 / 12,200 / 10,600	14,700 / 14,400 / 13,000
Indoor Unit				**FDMG140AV1**	**FDMG180AV1**
Dimensions		H×W×D	mm	305×1,550×680	305×1,900×680
Coil	Type			Cross Fin Coil	
	Row×Stages×Fin Pitch			3×12×1.75	3×12×1.75
	Face Area		m^2	0.340	0.428
Fan	Type			Sirocco Fan	
	Motor Output		W	225	225
	Rated Air Flow *3		m^3/min	42	42
	Rated Ext. Static Pressure *3		mmH_2O	8.0	9.8
Mass (Weight)			kg	52	58
Piping Connections		Liquid	mm	φ 9.5 (Flare)	φ 9.5 (Flare)
		Gas	mm	φ 19.1 (Flare)	φ 19.1 (Flare)
		Drain	mm	3 / 4 B (O.D.φ27.2 I.D.φ21.6)	3 / 4 B (O.D.φ27.2 I.D.φ21.6)
Remote Controller		Wired		KRC47-1 / KRC47-2 / KRC47-4	KRC47-1 / KRC47-2 / KRC47-4
		Wireless		—	—
Outdoor Unit				**RG140AY1**	**RG180AY1**
Color				Ivory	
Dimensions		H×W×D	mm	1,345×880×370	1,345×880×370
Coil	Type			Cross Fin Coil	
	Row×Stages×Fin Pitch			2×60×2.0	2×60×2.0
	Face Area		m^2	1.088	1.088
Comp.	Model			JT170BC–YE	JT200B–YE
	Type			Hermetically Sealed Scroll Type	
	Motor Output		kW	4.5	4.5
Fan	Model			P45J11S	P45J11S
	Type			Propeller	
	Motor Output		W	64+56	64+56
	Air Flow Rate		m^3/min	101	101
Mass (Weight)			kg	113	114
Piping Connections		Liquid	mm	φ 9.5 (Flare)	φ 9.5 (Flare)
		Gas	mm	φ 19.1 (Flare)	φ 19.1 (Flare)
		Drain	mm	φ 26.0 (Hole)	φ 26.0 (Hole)
Safety Devices				Thermal Protector for Compressor, Outdoor Fan Motor and Indoor Fan Motor. High Pressure Switch. Low Pressure Switch. Over Current Relay (Compressor). Reverse Phase Protector. Fuse.	
Capacity Step			%	100–0	100–0
Refrigerant Control				Capillary Tube	
Ref. Piping	Standard Length		m	5	5
	Max. Length		m	50 (Equivalent Length 70m)	50 (Equivalent Length 70m)
	Max. Height Difference		m	30	30
Refrigerant	Model			R22	R22
	Charge		kg	2.9 (Factory Charge for 5m)	2.8 (Field Charge for 5m)
Ref. Oil	Model			Refer to the name plate of compressor	
	Charge		L	1.6	1.6
Drawing No.				3D048714	

Note: *1. The above data are based on the following conditions.

	Cooling	Piping Length	Hz, Volts	Standard
(1)	Indoor: 27°C(81°F)DB, 19.5°C(67°F)WB Outdoor: 35°C(95°F)DB, 24°C(75°F)WB	5m (Horizontal)	50Hz, 220–240V (380–415V)	—
(2)	Indoor: 27°C(81°F)DB, 19.0°C(66°F)WB Outdoor: 35°C(95°F)DB, 24°C(75°F)WB	5m (Horizontal)	50Hz, 220–240V (380–415V)	—
(3)	Indoor: 29°C(84°F)DB, 19.0°C(66°F)WB Outdoor: 46°C(115°F)DB, 24°C(75°F)WB	7.5m (Horizontal)	50Hz, 240V (415V)	SSA 385/386

*2. Capacities are gross, including a deduction for cooling for indoor fan motor heat.
*3. Please see fan characteristic documents in detail.

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3414 cfm=m^3/min×35.3

4.2 50Hz (For Thailand)

Model				FDMG71AV1S	FDMG100AV1S	FDMG125AV1S
Model	Indoor Unit			FDMG71AV1S	FDMG100AV1S	FDMG125AV1S
	Outdoor Unit		V1	RG71AV1S	R100FUV1S	—
			Y1	RG71AY1S	R100FUY1S	R125FUY1S
*1 Cooling Capacity (1) *2 / (2) *3			kW	8.8 / 8.4	10.6 / 10.2	13.1 / 12.6
			Btu/h	30,000 / 28,800	36,100 / 34,800	44,500 / 43,000
			kcal/h	7,600 / 7,200	9,100 / 8,770	11,200 / 10,800
Indoor Unit				**FDMG71AV1S**	**FDMG100AV1S**	**FDMG125AV1S**
Dimensions		H×W×D	mm	305×1,350×680	305×1,550×680	305×1,550×680
Coil	Type			Cross Fin Coil		
	Row×Stages×Fin Pitch			3×12×1.75	3×12×1.75	3×12×1.75
	Face Area		m²	0.290	0.340	0.340
Fan	Type			Sirocco Fan		
	Motor Output		W	125	225	225
	Rated Air Flow *4		m³/min	23	34	37
	Rated Ext. Static Pressure *4		mmH_2O	8.5	10.1	9.8
Mass (Weight)			kg	43	51	52
Piping Connections		Liquid	mm	ϕ 9.5 (Flare)	ϕ 9.5 (Flare)	ϕ 9.5 (Flare)
		Gas	mm	ϕ 15.9 (Flare)	ϕ 19.1 (Flare)	ϕ 19.1 (Flare)
		Drain	mm	3 / 4 B (O.D.ϕ27.2 I.D.ϕ21.6)	3 / 4 B (O.D.ϕ27.2 I.D.ϕ21.6)	3 / 4 B (O.D.ϕ27.2 I.D.ϕ21.6)
Remote Controller		Wired		KRC47-1 / KRC47-2 / KRC47-4	KRC47-1 / KRC47-2 / KRC47-4	KRC47-1 / KRC47-2 / KRC47-4
		Wireless		—	—	—
Outdoor Unit			V1	**RG71AV1S**	**R100FUV1S**	**—**
			Y1	**RG71AY1S**	**R100FUY1S**	**R125FUY1S**
Color				Ivory		
Dimensions		H×W×D	mm	816×880×370	1,215×880×370	1,215×880×370
Coil	Type			Cross Fin Coil		
	Row×Stages×Fin Pitch			2×36×2.0	2×54×2.0	2×54×2.0
	Face Area		m²	0.642	0.962	0.962
Comp.	Model		V1	H23A35QABKA	H23A46QABKA	—
			Y1	H23A35QDEEA	H23A46QDBEA	H23A56QDBEA
	Type			Hermetically Sealed Reciprocating Type		
	Motor Output		kW	2.2	3.0	3.75
Fan	Model			P45J11SM	P45J11SM	P45J11SM
	Type			Propeller		
	Motor Output		W	50	75+35	75+60
	Air Flow Rate		m³/min	46	80	87
Mass (Weight)		kg	V1	87	117	—
			Y1	84	109	110
Piping Connections		Liquid	mm	ϕ 9.5 (Flare)	ϕ 9.5 (Flare)	ϕ 9.5 (Flare)
		Gas	mm	ϕ 15.9 (Flare)	ϕ 19.1 (Flare)	ϕ 19.1 (Flare)
		Drain	mm	ϕ 26.0 (Hole)	ϕ 26.0 (Hole)	ϕ 26.0 (Hole)
Safety Devices				Thermal Protector for Compressor, Outdoor Fan Motor and Indoor Fan Motor. High Pressure Switch. Over Current Relay (Compressor). Reverse Phase Protector. Fuse.		
Capacity Step			%	100–0	100–0	100–0
Refrigerant Control				Capillary Tube		
Ref. Piping	Standard Length		m	5	5	5
	Max. Length		m	50 (Equivalent Length 70m)	50 (Equivalent Length 70m)	50 (Equivalent Length 70m)
	Max. Height Difference		m	30	30	30
Refrigerant	Model			R22	R22	R22
	Charge		kg	2.4 (Factory Charge for 5m)	2.4 (Factory Charge for 5m)	2.8 (Factory Charge for 5m)
Ref. Oil	Model			Refer to the name plate of compressor.		
	Charge		L	1.48	1.63	1.63
Drawing No.				3D049514		

Note:

*1. The above data are based on the following conditions.

	Cooling	Piping Length	Hz, Volts	Standard
(1)	Indoor: 27°C(81°F)DB, 19.5°C(67°F)WB Outdoor: 35°C(95°F)DB, 24°C(75°F)WB	5m (Horizontal)	50Hz, 220V (380V)	—
(2)	Indoor: 27°C(81°F)DB, 19.0°C(66°F)WB Outdoor: 35°C(95°F)DB, 24°C(75°F)WB	7.5m (Horizontal)	50Hz, 220V (380V)	—

*2. Capacities are gross, not including a deduction for cooling for indoor fan motor heat.
*3. Capacities are net, including a deduction for cooling for indoor fan motor heat.
*4. Please see fan characteristic documents in detail.

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3414 cfm=m³/min×35.3

Model				FDMG140AV1S			FDMG180AV1S		
Model	Outdoor Unit			RG140AY1S			RG180AY1S		
*1 Cooling Capacity (1) *2 / (2) *3			kW	14.5 / 13.9			17.2 / 16.4		
			Btu/h	49,400 / 47,300			58,700/ 56,100		
			kcal/h	12,500 / 12,000			14,700 / 14,100		
Indoor Unit				**FDMG140AV1S**			**FDMG180AV1S**		
Dimensions		H×W×D	mm	305×1,550×680			305×1,900×680		
Coil	Type			Cross Fin Coil					
	Row×Stages×Fin Pitch			3×12×1.75			3×12×1.75		
	Face Area		m²	0.340			0.428		
Fan	Type			Sirocco Fan					
	Motor Output		W	225			225		
	Rated Air Flow *4		m³/min	42			42		
	Rated Ext. Static Pressure *4		mmH_2O	8.0			9.8		
Mass (Weight)			kg	52			58		
Piping Connections		Liquid	mm	ϕ 9.5 (Flare)			ϕ 9.5 (Flare)		
		Gas	mm	ϕ 19.1 (Flare)			ϕ 19.1 (Flare)		
		Drain	mm	3 / 4 B (O.D.ϕ27.2 I.D.ϕ21.6)			3 / 4 B (O.D.ϕ27.2 I.D.ϕ21.6)		
Remote Controller		Wired		KRC47-1	KRC47-2	KRC47-4	KRC47-1	KRC47-2	KRC47-4
		Wireless		—			—		
Outdoor Unit				**RG140AY1S**			**RG180AY1S**		
Color				Ivory					
Dimensions		H×W×D	mm	1,345×880×370			1,345×880×370		
Coil	Type			Cross Fin Coil					
	Row×Stages×Fin Pitch			2×60×2.0			2×60×2.0		
	Face Area		m²	1.088			1.088		
Comp.	Model			JT170BC–YE			JT200B–YE		
	Type			Hermetically Sealed Scroll Type					
	Motor Output		kW	4.5			4.5		
Fan	Model			P45J11S			P45J11S		
	Type			Propeller					
	Motor Output		W	64+56			64+56		
	Air Flow Rate		m³/min	101			101		
Mass (Weight)			kg	113			114		
Piping Connections		Liquid	mm	ϕ 9.5 (Flare)			ϕ 9.5 (Flare)		
		Gas	mm	ϕ 19.1 (Flare)			ϕ 19.1 (Flare)		
		Drain	mm	ϕ 26.0 (Hole)			ϕ 26.0 (Hole)		
Safety Devices				Thermal Protector for Compressor, Outdoor Fan Motor and Indoor Fan Motor. High Pressure Switch. Low Pressure Switch. Over Current Relay (Compressor). Reverse Phase Protector. Fuse.					
Capacity Step			%	100–0			100–0		
Refrigerant Control				Capillary Tube					
Ref. Piping	Standard Length		m	5			5		
	Max. Length		m	50 (Equivalent Length 70m)			50 (Equivalent Length 70m)		
	Max. Height Difference		m	30			30		
Refrigerant	Model			R22			R22		
	Charge		kg	2.9 (Factory Charge for 5m)			2.8 (Field Charge for 5m)		
Ref. Oil	Model			Refer to the name plate of compressor					
	Charge		L	1.6			1.6		
Drawing No.				3D049514					

Note: *1. The above data are based on the following conditions.

	Cooling	Piping Length	Hz, Volts	Standard
(1)	Indoor: 27°C(81°F)DB, 19.5°C(67°F)WB Outdoor: 35°C(95°F)DB, 24°C(75°F)WB	5m (Horizontal)	50Hz, 220V (380V)	—
(2)	Indoor: 27°C(81°F)DB, 19.0°C(66°F)WB Outdoor: 35°C(95°F)DB, 24°C(75°F)WB	7.5m (Horizontal)	50Hz, 220V (380V)	—

*2. Capacities are gross, not including a deduction for cooling for indoor fan motor heat.
*3. Capacities are net, including a deduction for cooling for indoor fan motor heat.
*4. Please see fan characteristic documents in detail.

Conversion Formulae
kcal/h=kW×860 Btu/h=kW×3414 cfm=m³/min×35.3

5. Optional Accessories

5.1 Optional Accessories

5.1.1 Option List

■ **Indoor Unit**

Optional Accessory		Kit Name				
		FDMG71A	FDMG100A	FDMG125A	FDMG140A	FDMG180A
Remote Controller with 3 Minutes Timer		KRC47-1				
Digital Remote Controller with 3 Minutes Timer		KRC47-2				
Digital Remote Controller with 3 Minutes Timer	With Switch for Duct Heater	KRC47-4				

4D049500

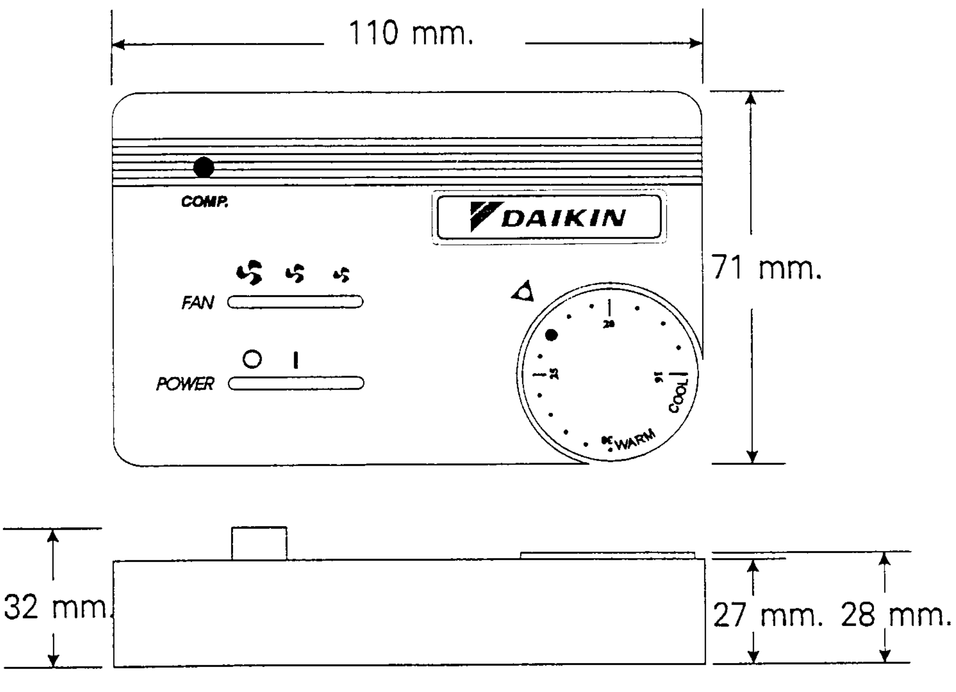
Note:
1. If you use local remote controller, 3 minutes timer is necessary for the recycling guard of compressor.
2. Central controls using with VRV controller are available on request. Please consult DAIKIN.

■ **Outdoor Unit**

Name of Option	Kit Name				
	RG71A	R100FU	R125FU	RG140A	RG180A
Central Drain Plug	KKPJ5F180				

5.1.2 Remote Controller (KRC47-1)

DIMENSION OF REMOTE CONTROLLER

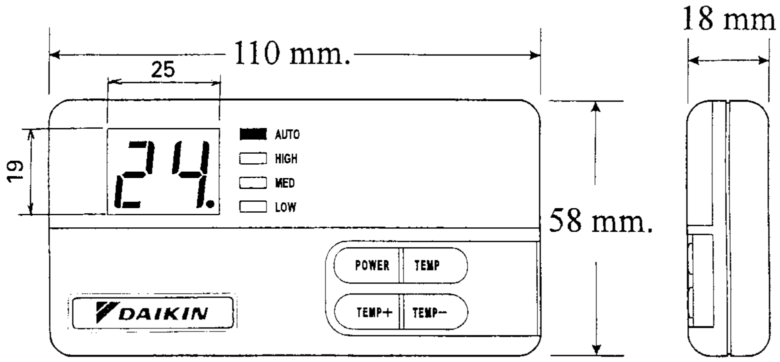


(P0003)

5.1.3 Digital Remote Controller (KRC47-2)

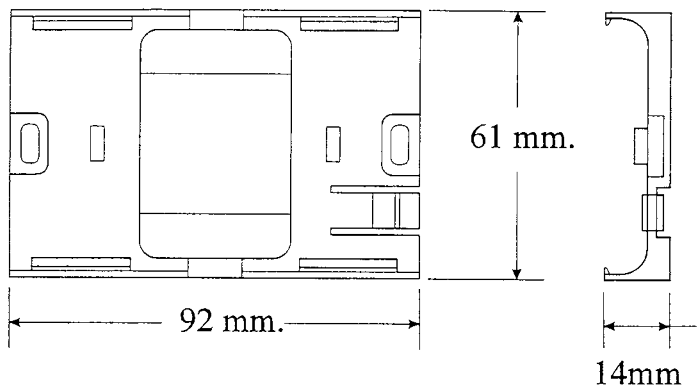
KRC47-2 contains the following parts, and they are packed in one carton.

1. Digital Remote Controller



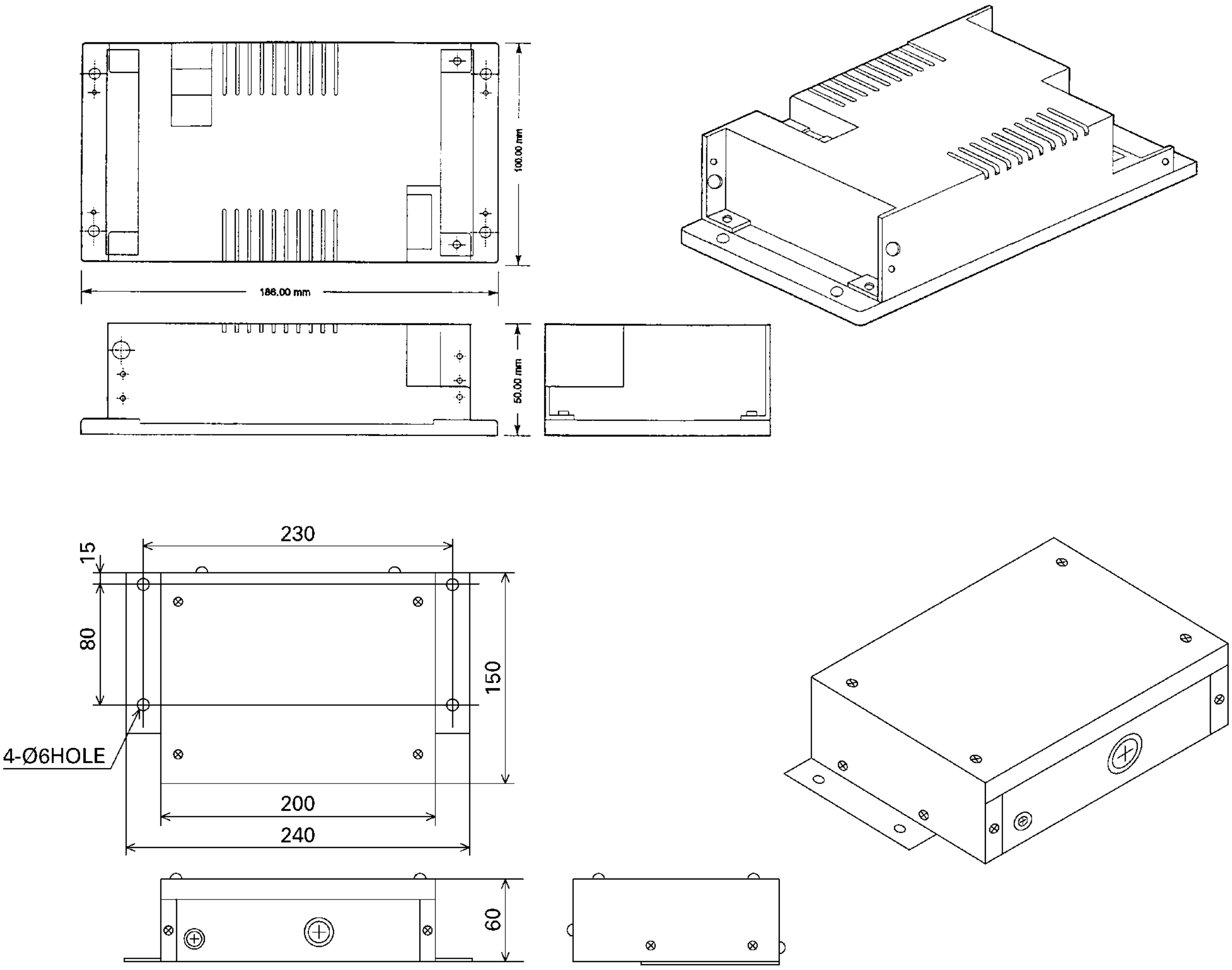
(P0004)

2. Holder



(P0005)

3. Control Board (Box)



(P0006)

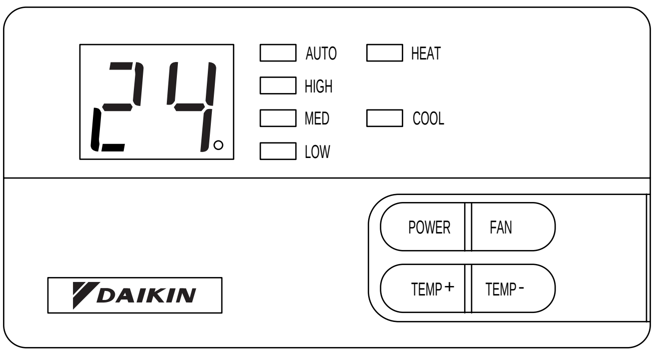
4. Wire Cable

Cable length : 4m

Connecting cable between **1. Digital Remote Controller** and **3. Control Board (Box)**.

5.1.4 Digital Remote Controller for Duct Heater Use (KRC47-4)

1. Digital Remote Controller

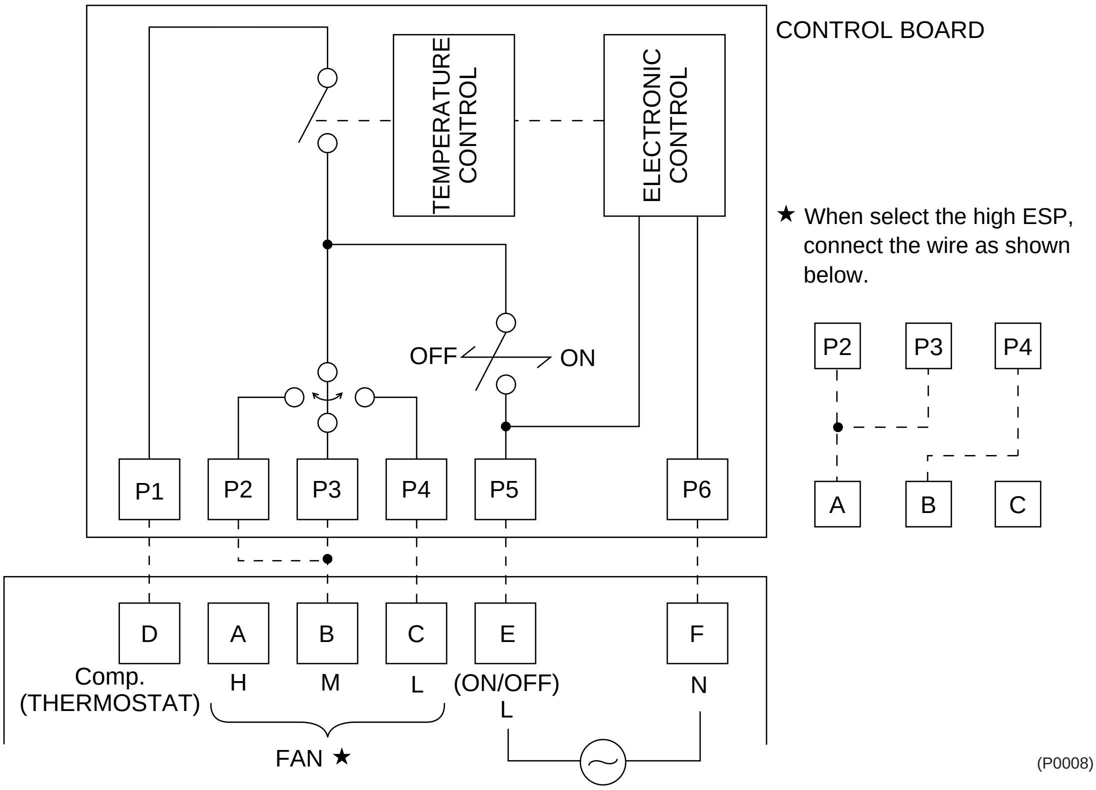


For other parts **2. Holder**, **3. Control Board (Box)**, **4. Wire Cable** will be the same as KRC 47-2.

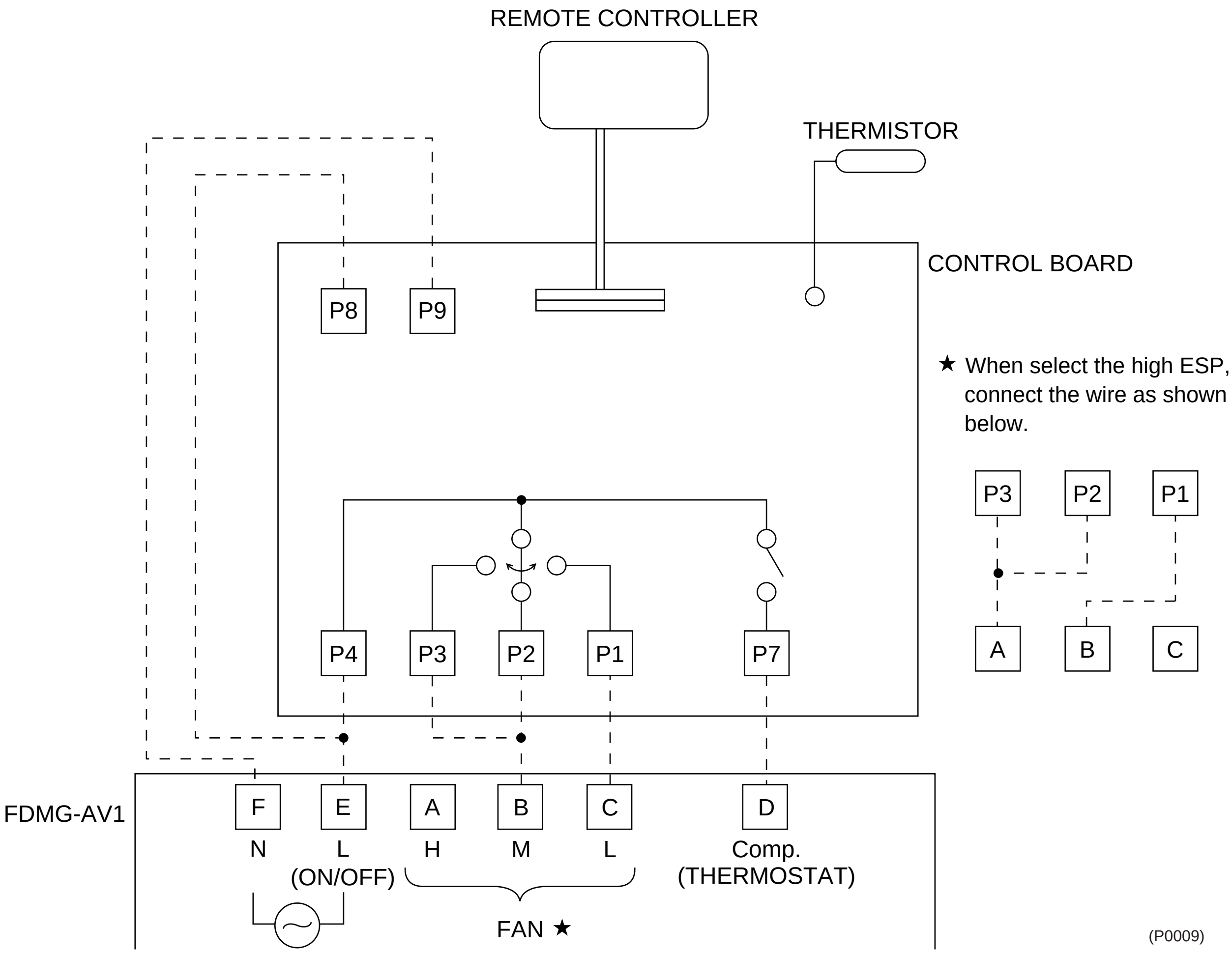
(P0007)

5.1.5 Internal Wiring Diagram

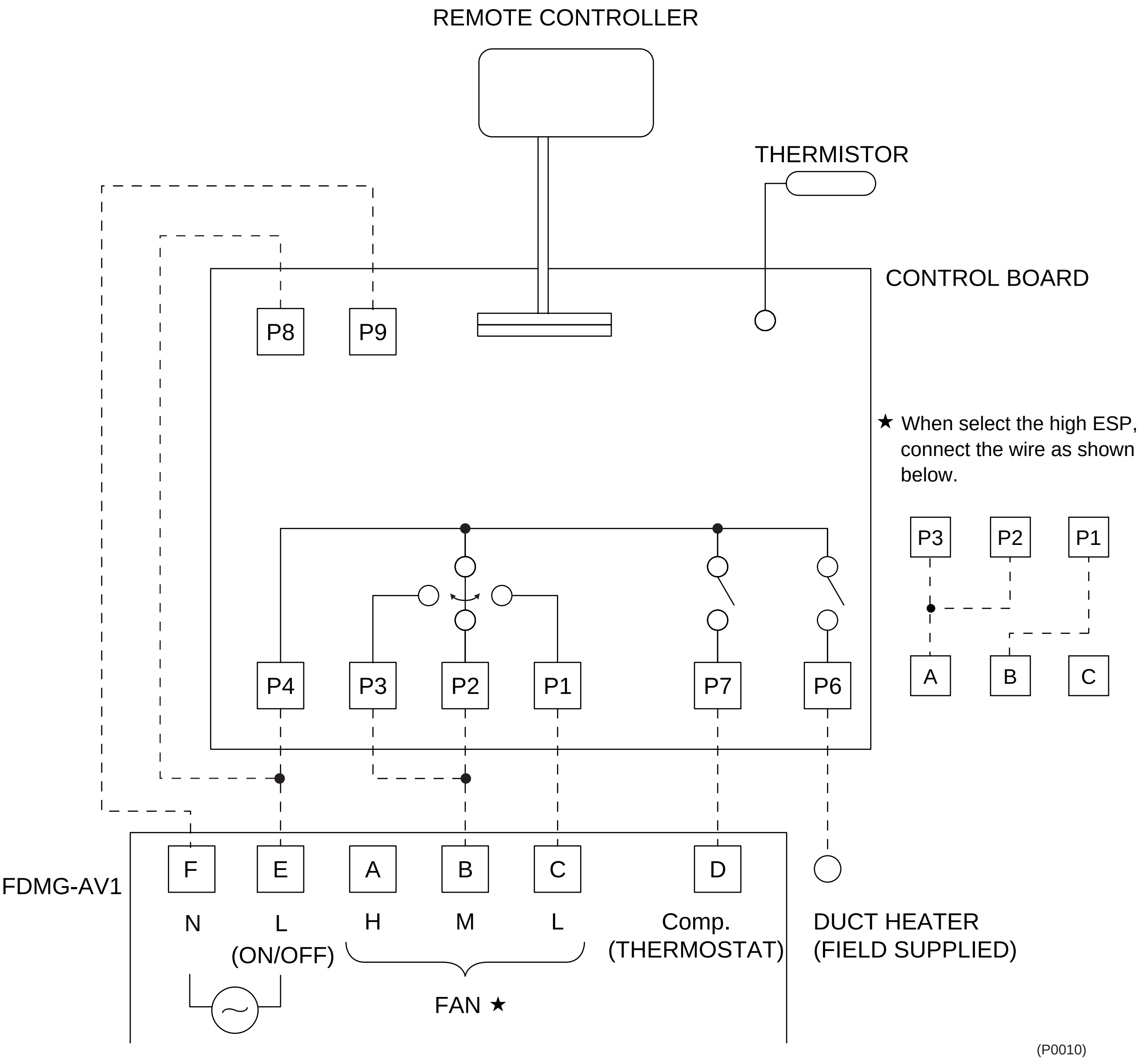
KRC47-1



KRC47-2



KRC47-4

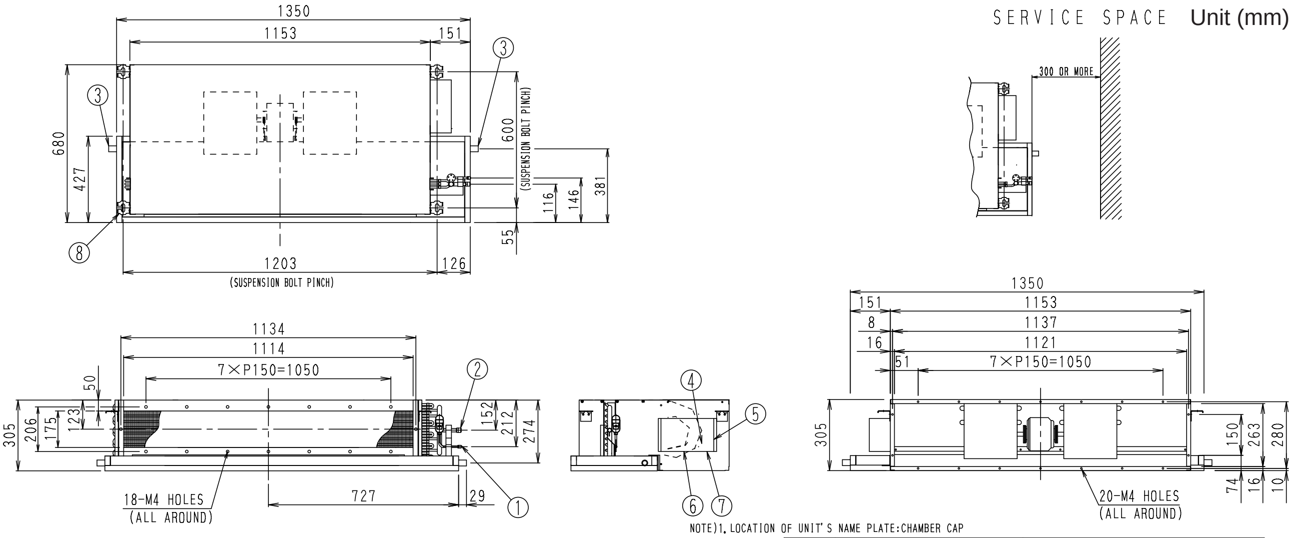

REMOTE CONTROLLER
THERMISTOR
CONTROL BOARD
P8
P9
★ When select the high ESP, connect the wire as shown below.
P3
P2
P1
A
B
C
P4
P3
P2
P1
P7
P6
FDMG-AV1
F
E
A
B
C
D
N
L
(ON/OFF)
H
M
L
FAN ★
Comp.
(THERMOSTAT)
DUCT HEATER
(FIELD SUPPLIED)
(P0010)

6. Dimensions

6.1 Indoor Unit

FDMG71AV1(S)

Unit (mm)



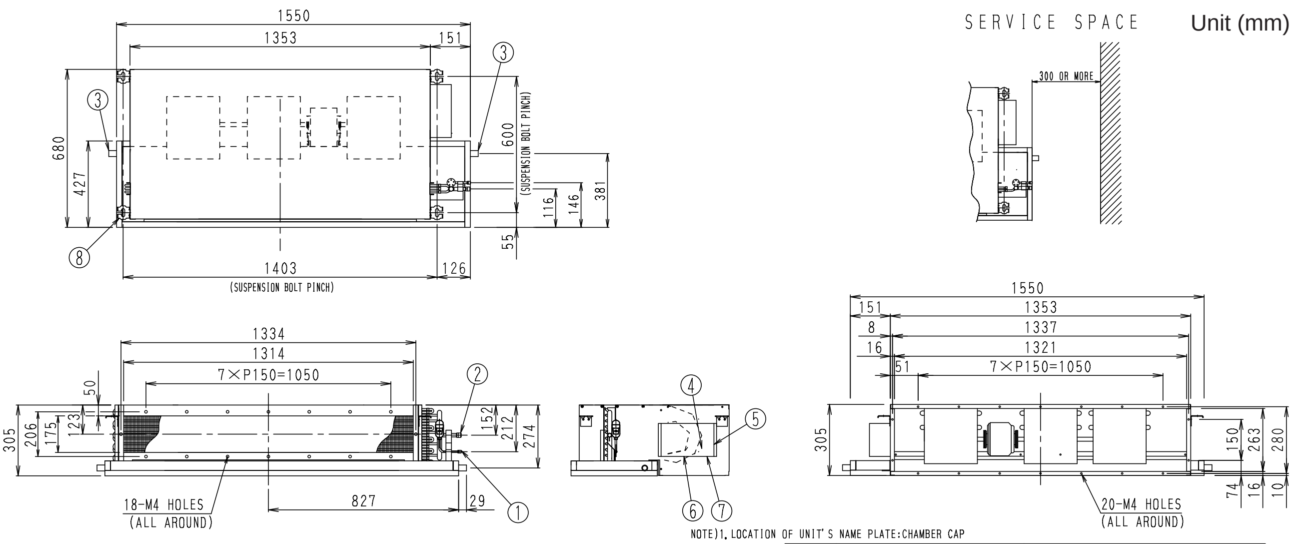
NOTE)1. LOCATION OF UNIT'S NAME PLATE:CHAMBER CAP

NUMBER	NAME	DESCRIPTION
8	SUSPENSION BRACKET	M10
7	CONTROL WIRING INTAKE	FOR OUTDOOR UNIT
6	CONTROL WIRING INTAKE	FOR REMOTE CONTROLLER
5	SWITCH BOX	
4	GROUND TERMINAL	M4(IN SWITCH BOX)
3	DRAIN PIPE CONNECTION	3/4B(OD φ 27.2, ID φ 21.6)
2	GAS PIPE CONNECTION	φ15.9 FLARE CONNECTION
1	LIQUID PIPE CONNECTION	φ9.5 FLARE CONNECTION

3D048933A

FDMG100AV1(S)
FDMG125AV1(S)
FDMG140AV1(S)

Unit (mm)



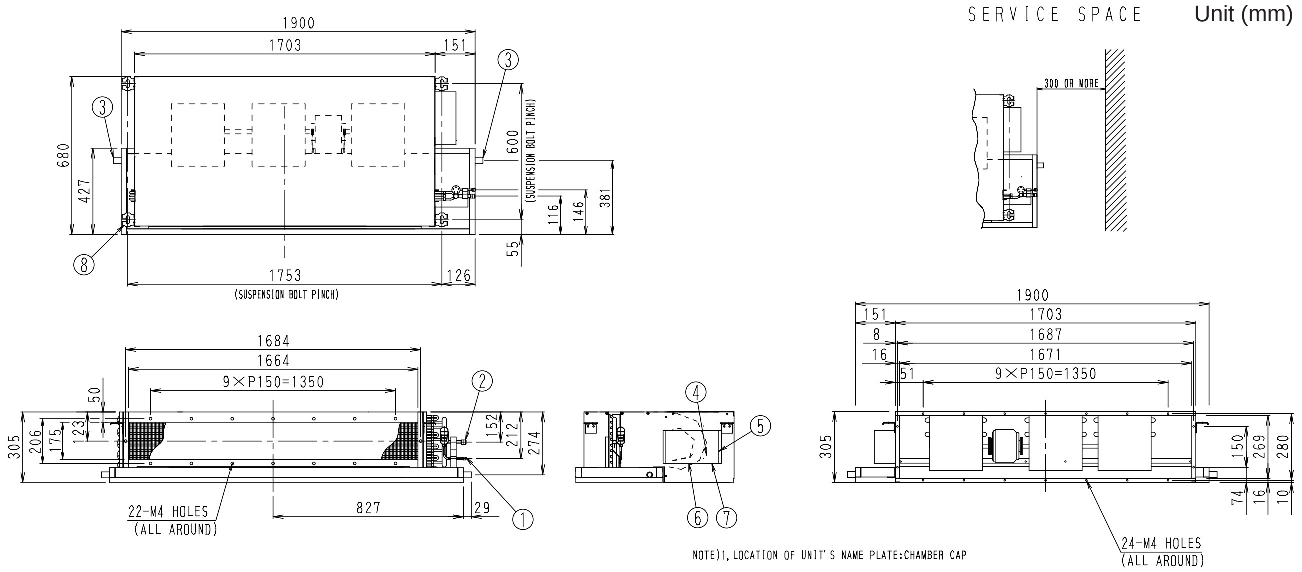
NOTE)1. LOCATION OF UNIT'S NAME PLATE:CHAMBER CAP

NUMBER	NAME	DESCRIPTION
8	SUSPENSION BRACKET	M10
7	CONTROL WIRING INTAKE	FOR OUTDOOR UNIT
6	CONTROL WIRING INTAKE	FOR REMOTE CONTROLLER
5	SWITCH BOX	
4	GROUND TERMINAL	M4(IN SWITCH BOX)
3	DRAIN PIPE CONNECTION	3/4B(OD φ 27.2, ID φ 21.6)
2	GAS PIPE CONNECTION	φ19.1 FLARE CONNECTION
1	LIQUID PIPE CONNECTION	φ9.5 FLARE CONNECTION

3D048934A

FDMG180AV1(S)

Unit (mm)



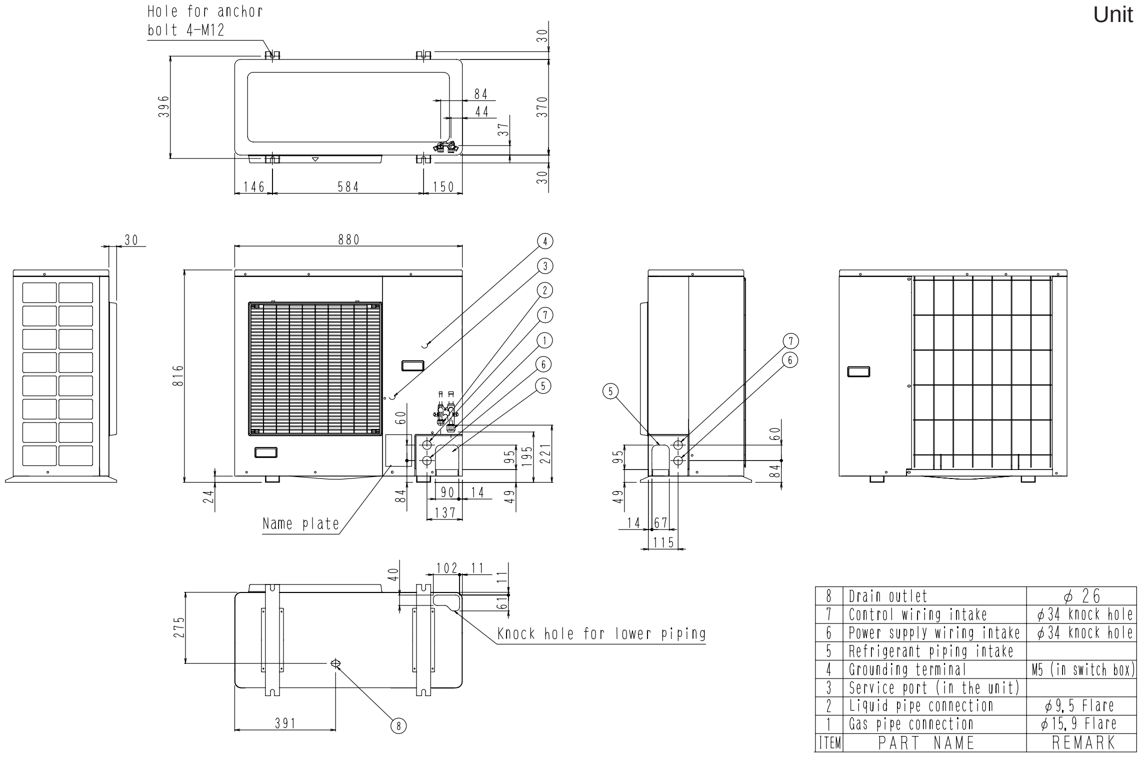
NUMBER	NAME	DESCRIPTION
8	SUSPENSION BRACKET	M10
7	CONTROL WIRING INTAKE	FOR OUTDOOR UNIT
6	CONTROL WIRING INTAKE	FOR REMOTE CONTROLLER
5	SWITCH BOX	
4	GROUND TERMINAL	M4(IN SWITCH BOX)
3	DRAIN PIPE CONNECTION	3/4B(OD φ 27.2, ID φ 21.6)
2	GAS PIPE CONNECTION	φ19.1 FLARE CONNECTION
1	LIQUID PIPE CONNECTION	φ9.5 FLARE CONNECTION

3D048935A

6.2 Outdoor Unit

RG71AV1(S)
RG71AY1(S)

Unit (mm)

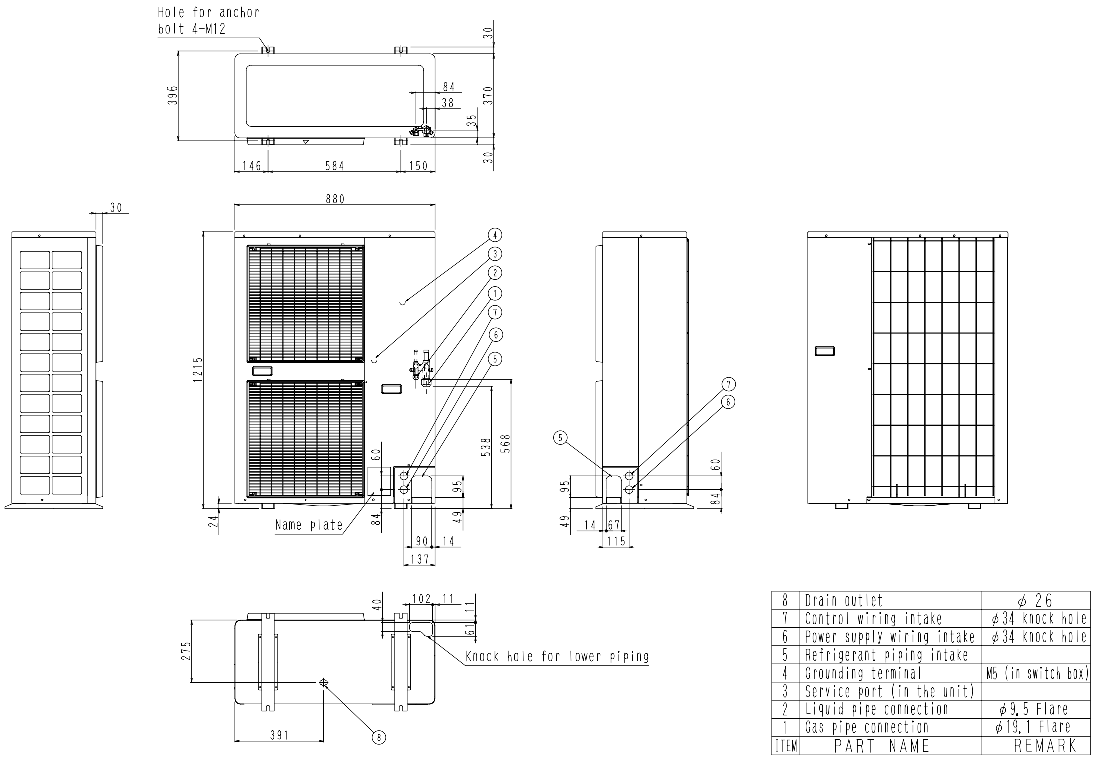


8	Drain outlet	φ 26
7	Control wiring intake	φ34 knock hole
6	Power supply wiring intake	φ34 knock hole
5	Refrigerant piping intake	
4	Grounding terminal	M5 (in switch box)
3	Service port (in the unit)	
2	Liquid pipe connection	φ9.5 Flare
1	Gas pipe connection	φ15.9 Flare
ITEM	PART NAME	REMARK

3D001674A

R100 · 125FUV1(S)
R100 · 125FUY1(S)

Unit (mm)

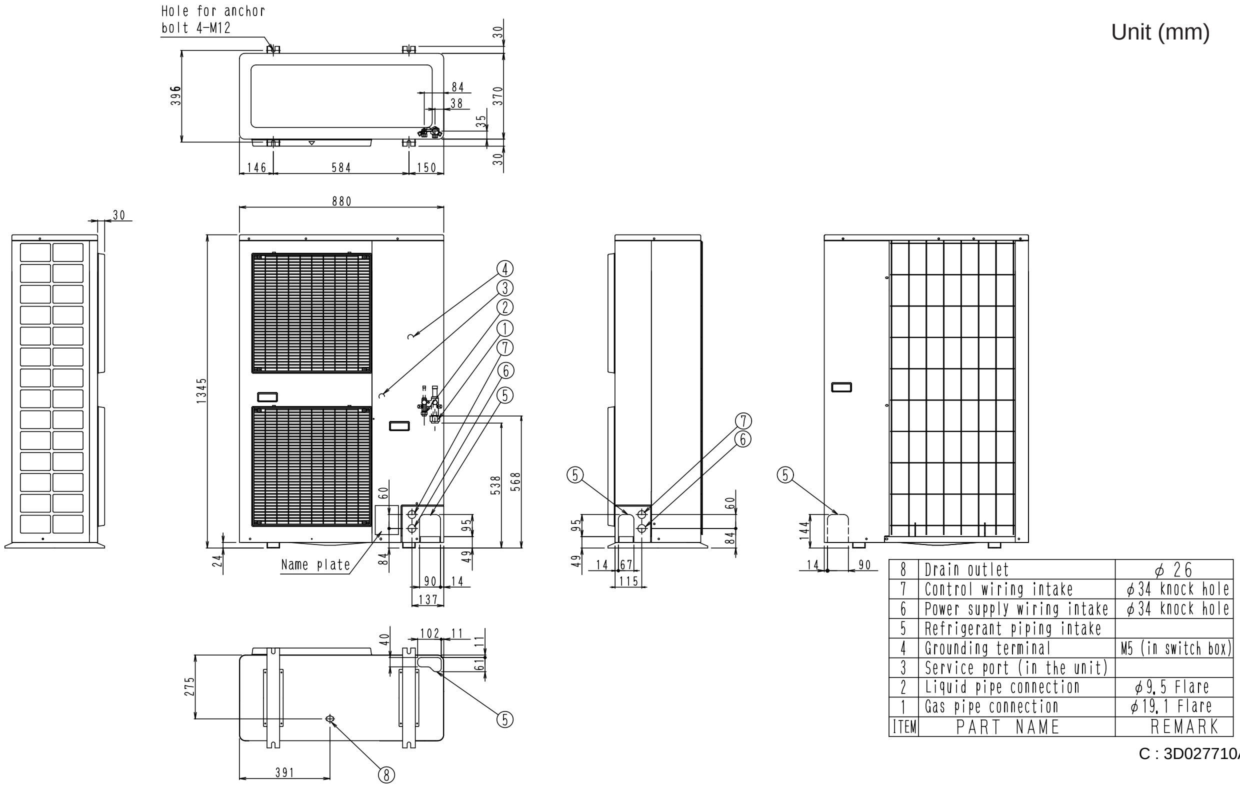


8	Drain outlet	φ 26
7	Control wiring intake	φ34 knock hole
6	Power supply wiring intake	φ34 knock hole
5	Refrigerant piping intake	
4	Grounding terminal	M5 (in switch box)
3	Service port (in the unit)	
2	Liquid pipe connection	φ9.5 Flare
1	Gas pipe connection	φ19.1 Flare
ITEM	PART NAME	REMARK

3D001672A

RG140AY1(S)
RG180AY1(S)

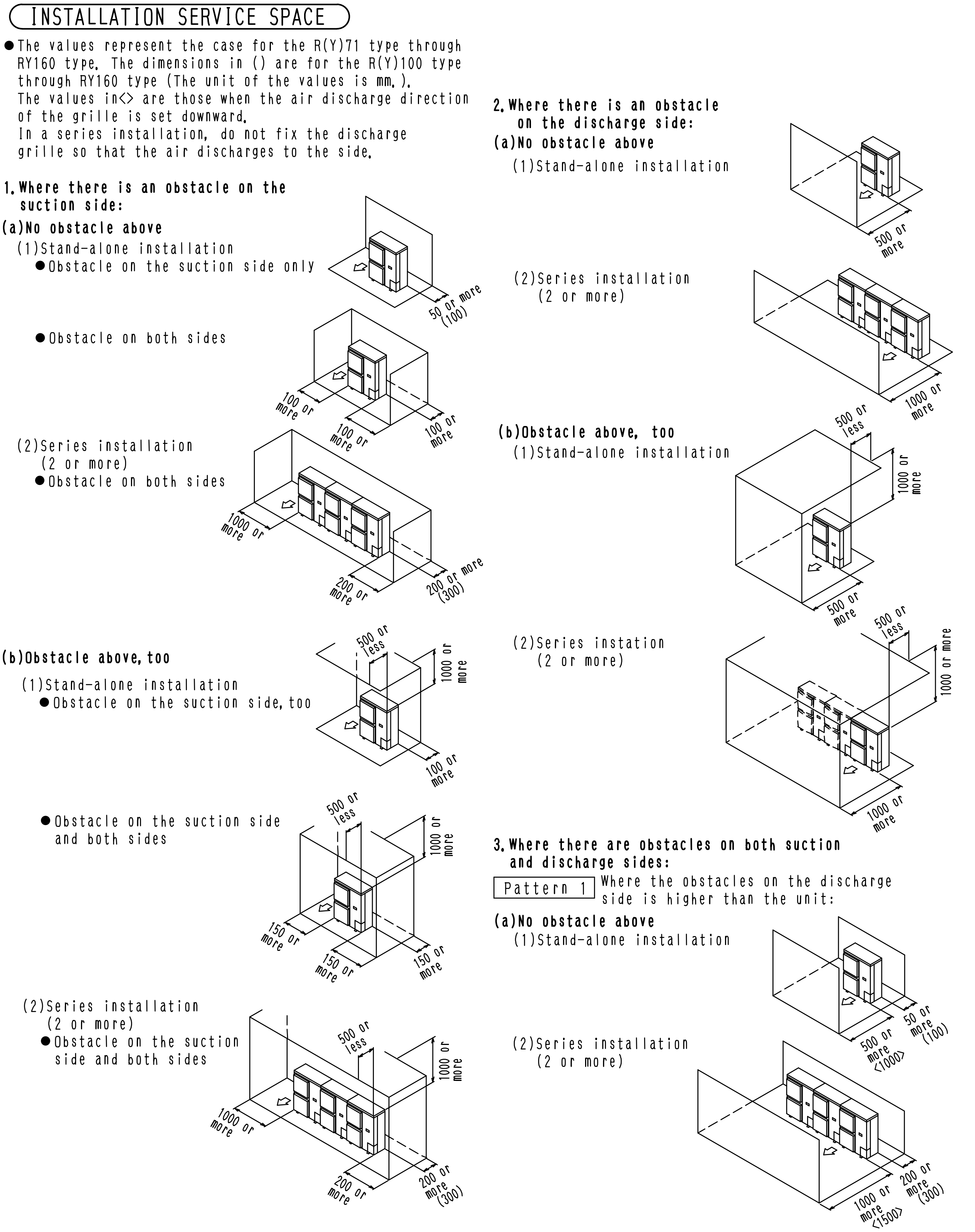
Unit (mm)



ITEM	PART NAME	REMARK
8	Drain outlet	φ 26
7	Control wiring intake	φ34 knock hole
6	Power supply wiring intake	φ34 knock hole
5	Refrigerant piping intake	
4	Grounding terminal	M5 (in switch box)
3	Service port (in the unit)	
2	Liquid pipe connection	φ9.5 Flare
1	Gas pipe connection	φ19.1 Flare

C : 3D027710A

6.3 Installation Service Space



3D001951A-1

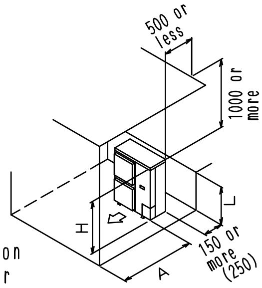
(b)Obstacle above, too

(1)Stand-alone installation

The relations between H, A and L are as follows:

	L	A
L≦H	0<L≦1/2H	750<1250>
	1/2H<L	1000<1500>
H<L	Set the stand as : L≦H.	

Close the bottom of the installation frame to prevent the discharged air from being bypassed.

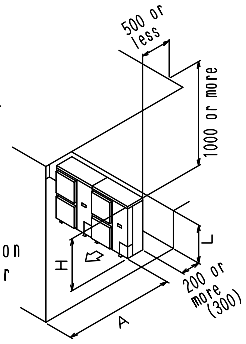


(2)Series installation (2 or more)

The relations between H, A and L are as follows:

	L	A
L≦H	0<L≦1/2H	1000<1500>
	1/2H<L	1250<1750>
H<L	Set the stand as : L≦H.	

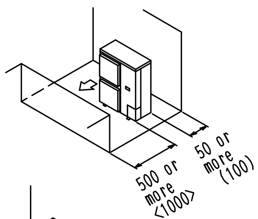
Close the bottom of the installation frame to prevent the discharged air from being bypassed.
Only two units can be installed for this series.



Pattern 2 Where the obstacle on the discharge side is lower than the unit:

(a)No obstacle above

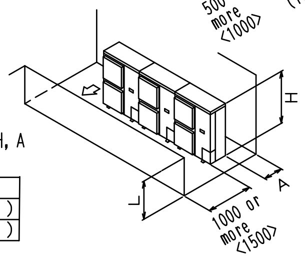
(1)Stand-alone installation



(2)Series installation (2 or more)

The relations between H, A and L are as follows:

L	A
0<L≦1/2H	150(250)
1/2H<L	200(300)



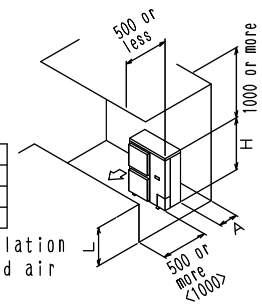
(b)Obstacle above, too

(1)Stand-alone installation

The relations between H, A and L are as follows:

	L	A
L≦H	0<L≦1/2H	50(100)
	1/2H<L	100(200)
H<L	Set the stand as: L≦H.	

Close the bottom of the installation frame to prevent the discharged air from being bypassed.

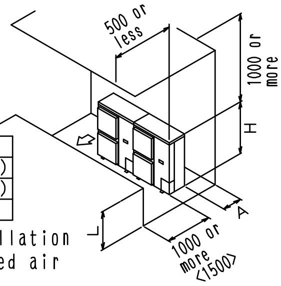


(2)Series installation (2 or more)

The relations between H, A and L are as follows:

	L	A
L≦H	0<L≦1/2H	150(250)
	1/2H<L	200(300)
H<L	Set the stand as: L≦H.	

Close the bottom of the installation frame to prevent the discharged air from being bypassed.
Only two units can be installed for this series.

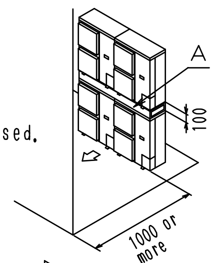


4.Double-decker installation

(a)Obstacle on the discharge side

Close the gap A to prevent the discharged air from being bypassed.

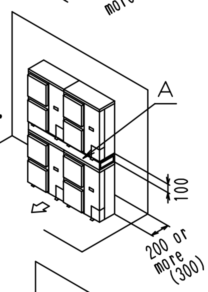
Do not stack more than two unit.



(b)Obstacle on the suction side

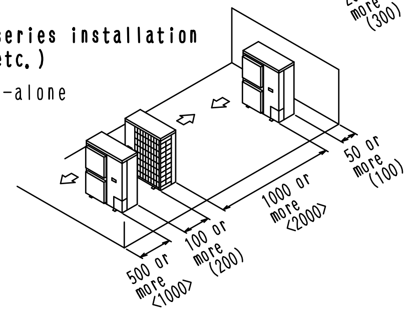
Close the gap A to prevent the discharged air from being bypassed.

Do not stack more than two unit.

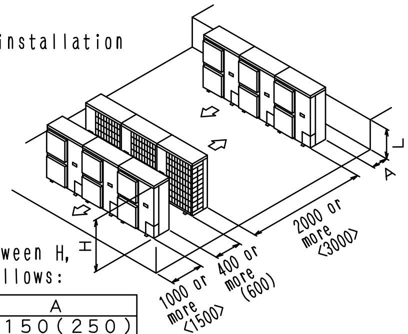


5.Multiple rows of series installation (on the rooftop, etc.)

(a)One row of stand-alone installaion



(b)Rows of series installation (2 or more)



The relations between H, A and L are as follows:

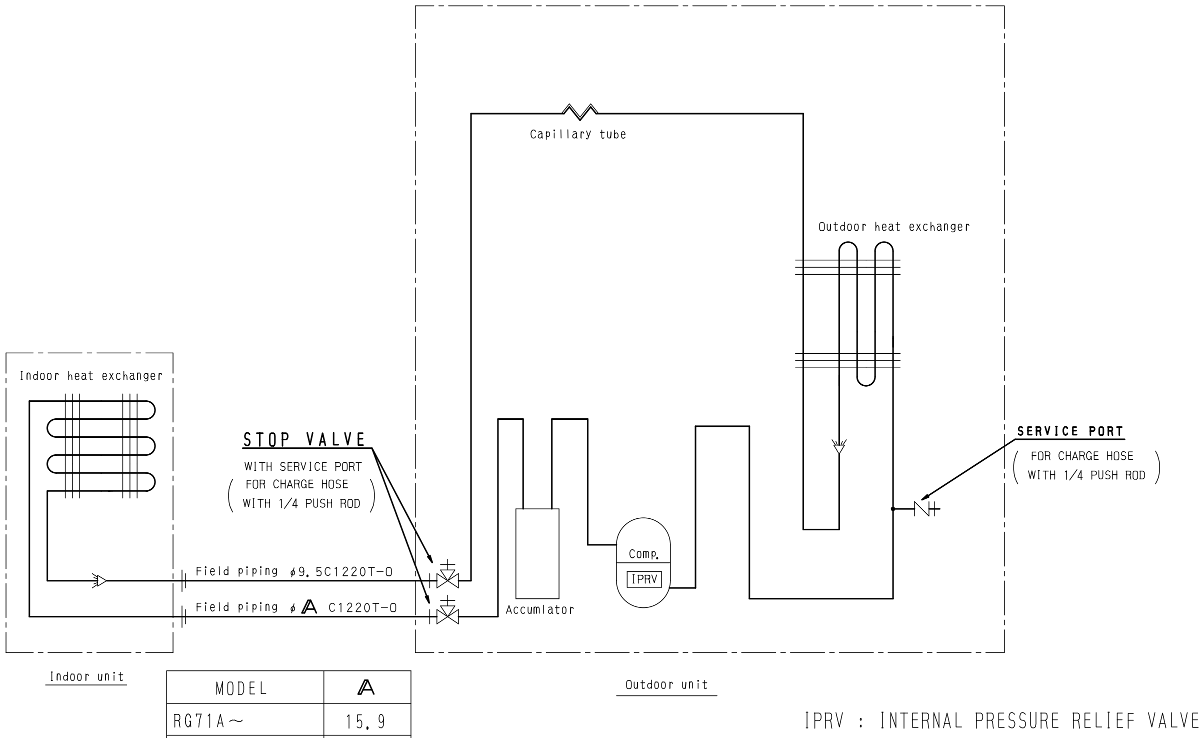
	L	A
L≦H	0<L≦1/2H	150(250)
	1/2H<L	200(300)
H<L	Cannot be installed	

3D001951A-2

7. Piping Diagrams

7.1 Indoor Unit + Outdoor Unit

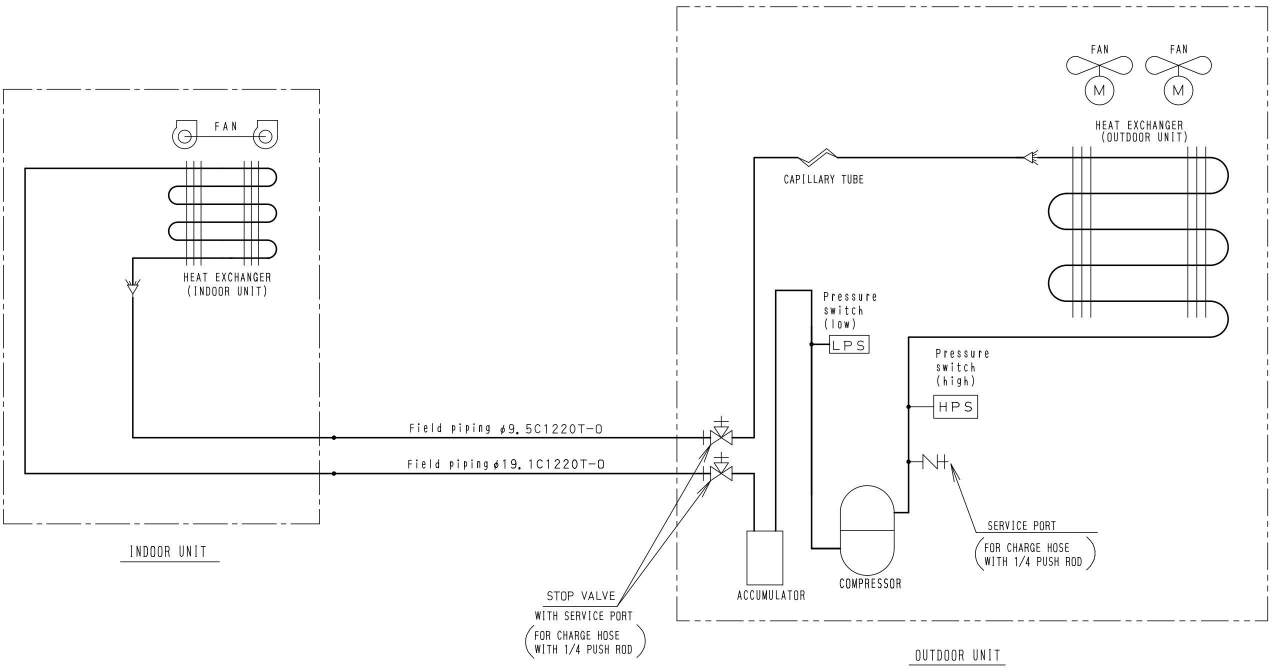
FDMG71A + RG71A
FDMG100A + R100FU
FDMG125A + R125FU



MODEL	A
RG71A~	15.9
R100・125FU~	19.1

3D049457

FDMG140A + RG140A
FDMG180A + RG180A

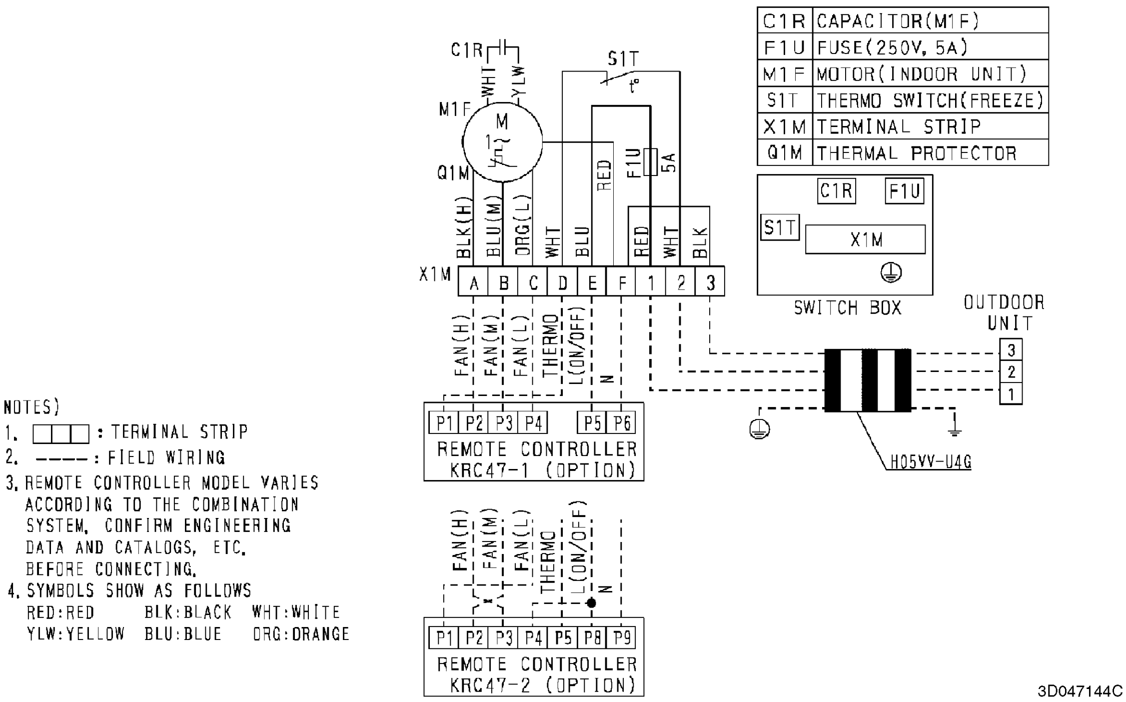


3D049434

8. Wiring Diagrams

8.1 Indoor Unit

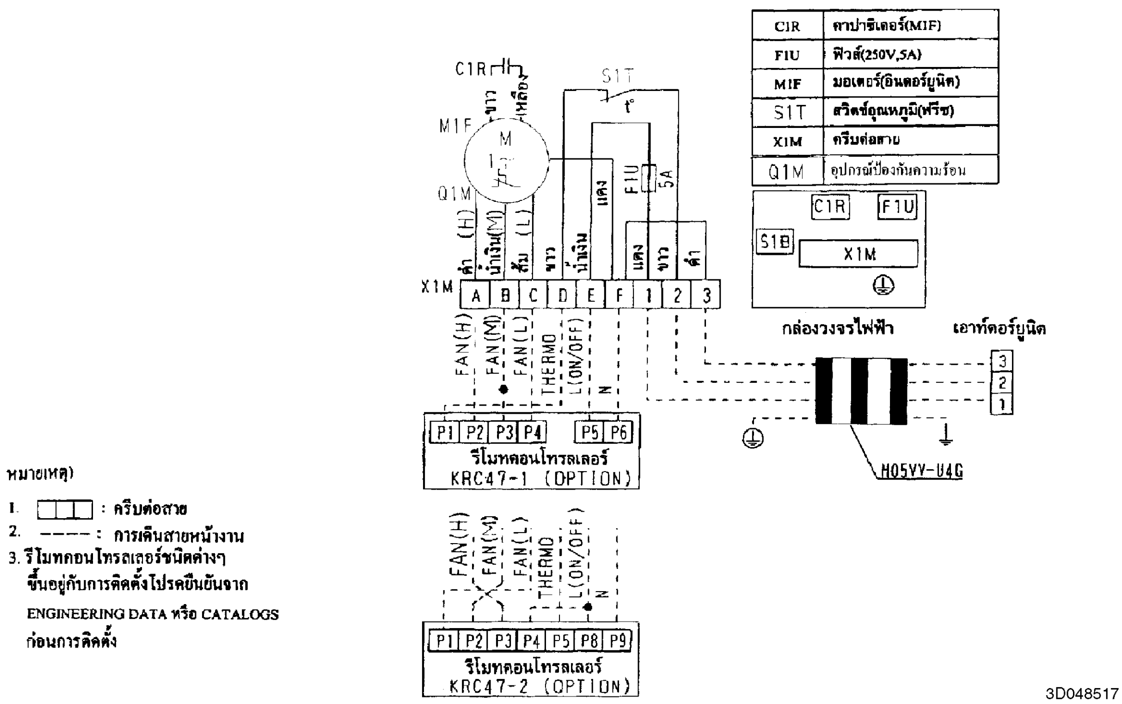
FDMG71AV1
FDMG100AV1
FDMG125AV1
FDMG140AV1
FDMG180AV1



3D047144C

8.2 Indoor Unit (For Thailand)

FDMG71AV1S
FDMG100AV1S
FDMG125AV1S
FDMG140AV1S
FDMG180AV1S

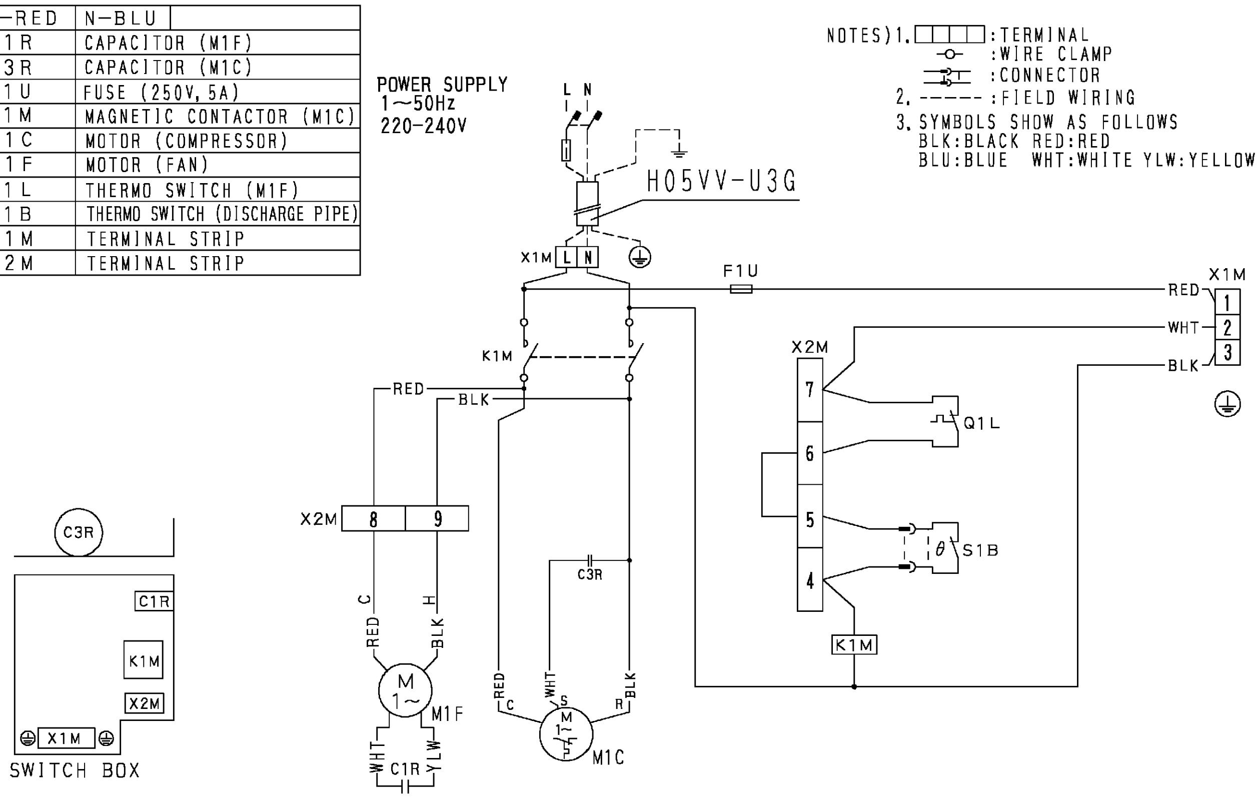


3D048517

8.3 Outdoor Unit

RG71AV1

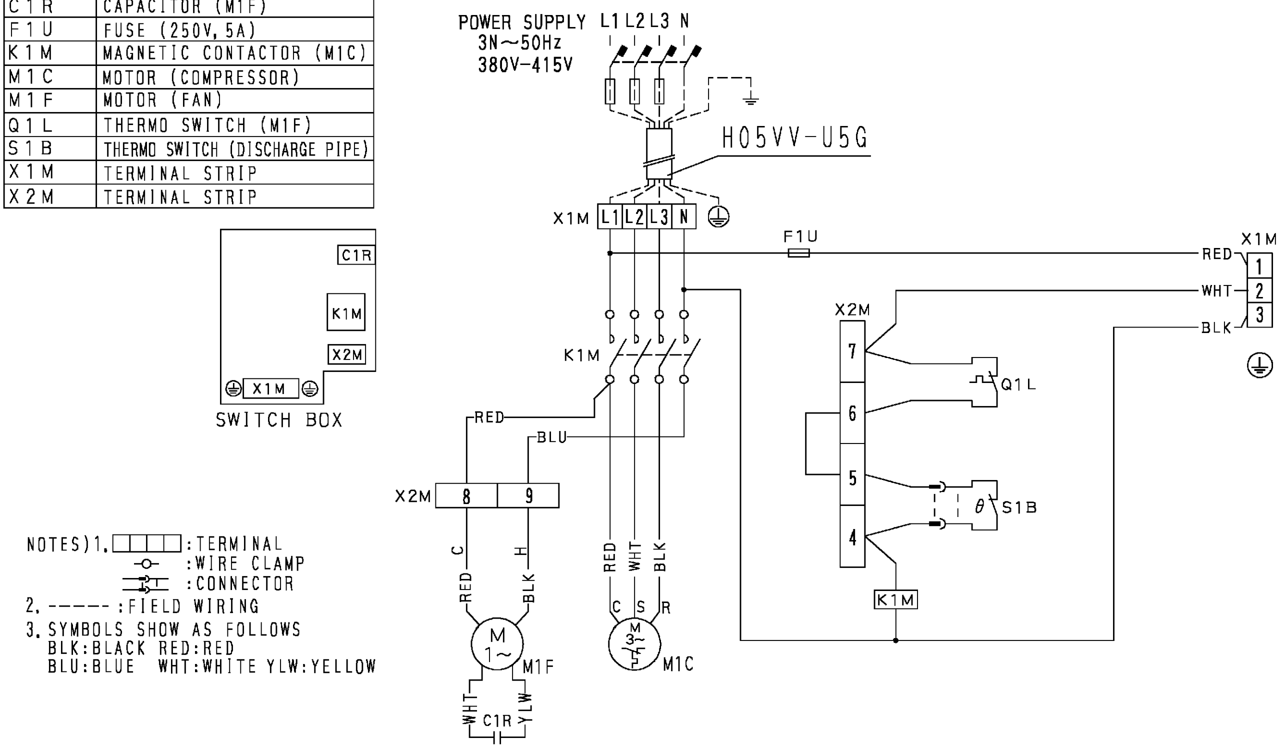
L-RED	N-BLU
C1R	CAPACITOR (M1F)
C3R	CAPACITOR (M1C)
F1U	FUSE (250V, 5A)
K1M	MAGNETIC CONTACTOR (M1C)
M1C	MOTOR (COMPRESSOR)
M1F	MOTOR (FAN)
Q1L	THERMO SWITCH (M1F)
S1B	THERMO SWITCH (DISCHARGE PIPE)
X1M	TERMINAL STRIP
X2M	TERMINAL STRIP



3D048216

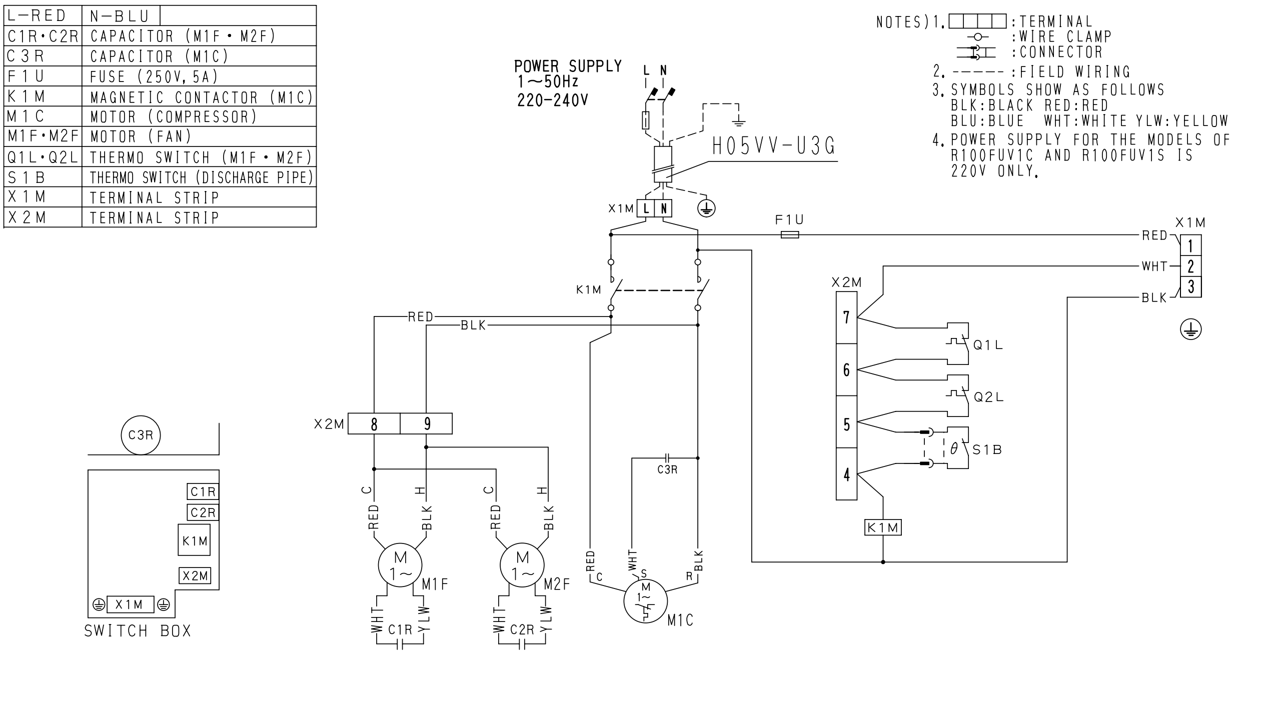
RG71AY1

L1-RED	L2-WHT	L3-BLK	N-BLU
C1R	CAPACITOR (M1F)		
F1U	FUSE (250V, 5A)		
K1M	MAGNETIC CONTACTOR (M1C)		
M1C	MOTOR (COMPRESSOR)		
M1F	MOTOR (FAN)		
Q1L	THERMO SWITCH (M1F)		
S1B	THERMO SWITCH (DISCHARGE PIPE)		
X1M	TERMINAL STRIP		
X2M	TERMINAL STRIP		



3D048217

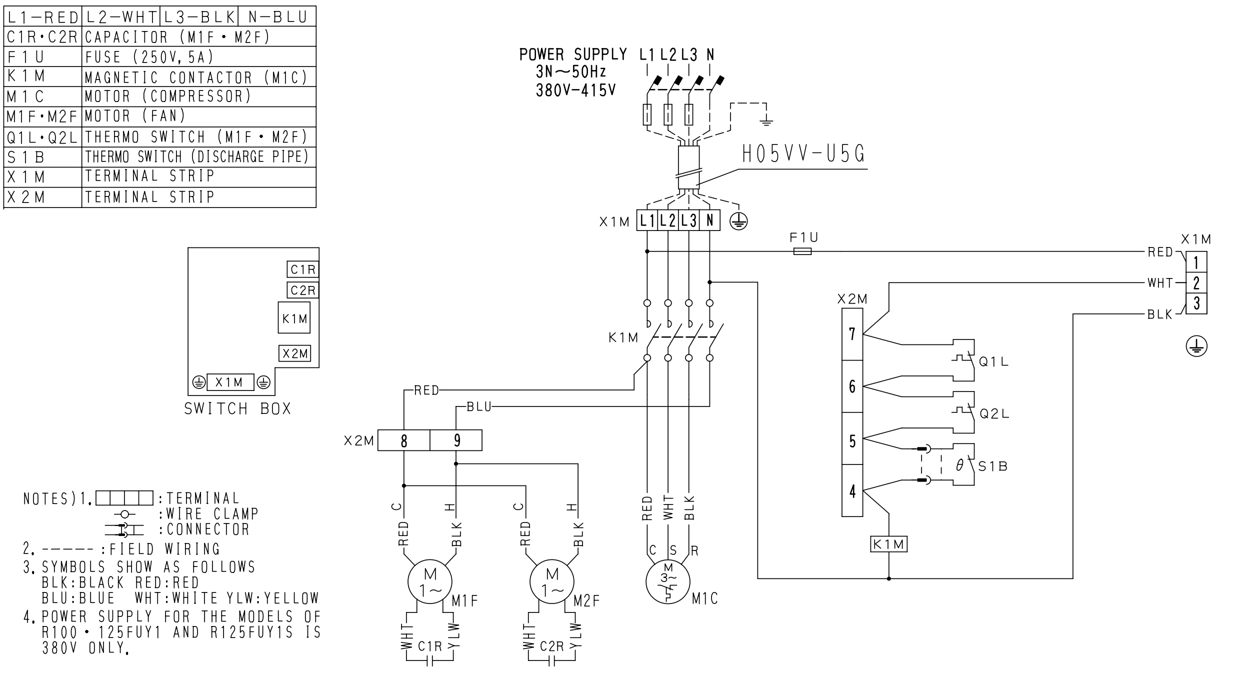
R100FUV1



L−RED	N−BLU
C1R・C2R	CAPACITOR (M1F・M2F)
C3R	CAPACITOR (M1C)
F1U	FUSE (250V, 5A)
K1M	MAGNETIC CONTACTOR (M1C)
M1C	MOTOR (COMPRESSOR)
M1F・M2F	MOTOR (FAN)
Q1L・Q2L	THERMO SWITCH (M1F・M2F)
S1B	THERMO SWITCH (DISCHARGE PIPE)
X1M	TERMINAL STRIP
X2M	TERMINAL STRIP

3D010788

R100FUY1
R125FUY1

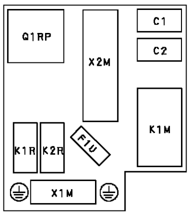


L1−RED	L2−WHT	L3−BLK	N−BLU
C1R・C2R	CAPACITOR (M1F・M2F)		
F1U	FUSE (250V, 5A)		
K1M	MAGNETIC CONTACTOR (M1C)		
M1C	MOTOR (COMPRESSOR)		
M1F・M2F	MOTOR (FAN)		
Q1L・Q2L	THERMO SWITCH (M1F・M2F)		
S1B	THERMO SWITCH (DISCHARGE PIPE)		
X1M	TERMINAL STRIP		
X2M	TERMINAL STRIP		

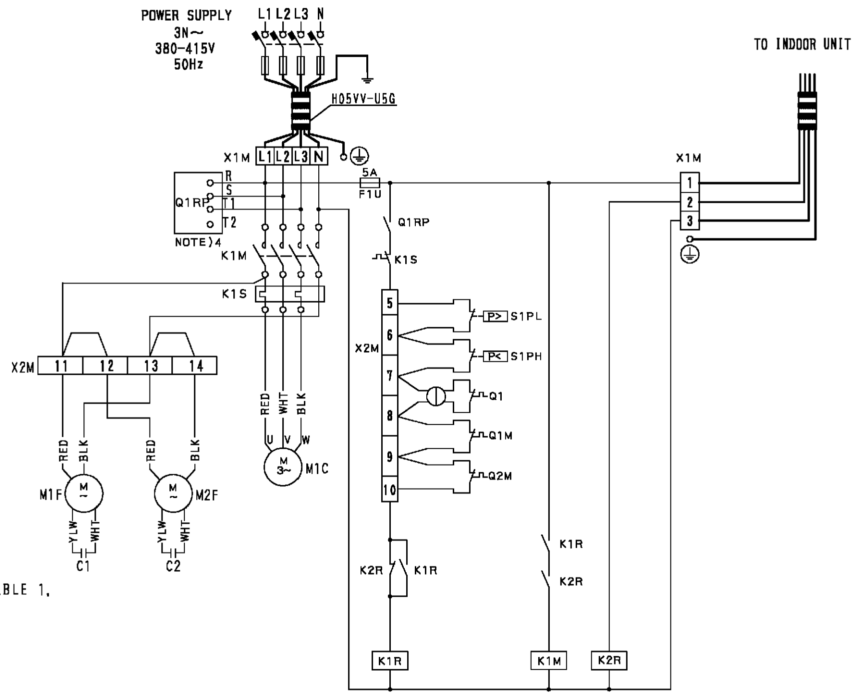
3D001007C

RG140AY1
RG180AY1

L1–RED	L2–WHT L3–BLK N–BLU
C1・C2	CAPACITOR (M1F・M2F)
F1U	FUSE (250V 5A)
K1S	OVER CURRENT RELAY(M1C)
K1M	MAGNETIC CONTACTOR(M1C)
K1R・K2R	MAGNETIC RELAY(ALARM)
M1C	MOTOR (COMPRESSOR)
M1F・M2F	MOTOR (OUTDOOR FAN)
Q1M・Q2M	THERMO SWITCH (M1F・M2F)
Q1RP	REVERSE PHASE PROTECTOR
Q1	THERMO SWITCH (DISCHARGE PIPE)
S1PH	PRESSURE SWITCH (HIGH)
S1PL	PRESSURE SWITCH (LOW)
X1M・X2M	TERMINAL STRIP(OUTDOOR UNIT)



SWITCH BOX



1. ☐☐☐ :TERMINAL STRIP
 -o- :TERMINAL CONNECTION
2. ■■■ :FIELD WIRING
3. SYMBOLS SHOW AS FOLLOWS
 BLK:BLACK RED:RED ORA:ORANGE PNK:PINK
 BLU:BLUE WHT:WHITE YLW:YELLOW GRY:GRAY
4. CHANGE THE CONNECTION OF TERMINAL STRIP AND PHASE REVERSAL PROTECTOR ACCORDING TO THE TABLE 1.

TABLE 1 ✱FACTORY CONNECTION

VOLTAGE	TERMINAL
380V	✱R–S–T1
400・415V	R–S–T2

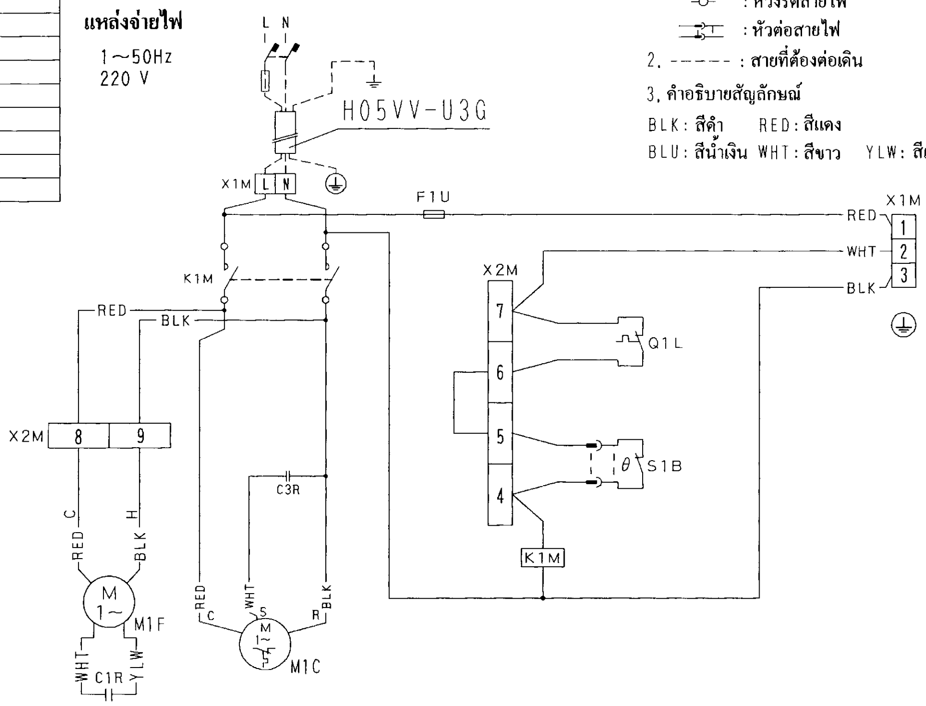
3D046967D

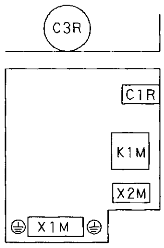
8.4 Outdoor Unit (For Thailand)

RG71AV1S

L–RED	N–BLU
C1R	ตัวเก็บประจุ(M1F)
C3R	ตัวเก็บประจุ(M1C)
F1U	ฟิวส์(250 V. 5 A.)
K1M	ขั้วสัมผัสแม่เหล็ก(M1C)
M1C	มอเตอร์ (คอมเพรสเซอร์)
M1F	มอเตอร์ (พัดลม)
Q1L	สวิตช์อุณหภูมิ(M1F)
S1B	สวิตช์อุณหภูมิ(ท่อดิสชาร์จ)
X1M	ขั้วต่อสายไฟ
X2M	ขั้วต่อสายไฟ

หมายเหตุ) 1. ☐☐☐ : ขั้วต่อสายไฟ
 -o- : ห่วงรัดสายไฟ
 : หัวต่อสายไฟ
2. ----- : สายที่ต้องต่อเดิน
3. คำอธิบายสัญลักษณ์
BLK : สีดำ RED : สีแดง
BLU : สีน้ำเงิน WHT : สีขาว YLW : สีเหลือง



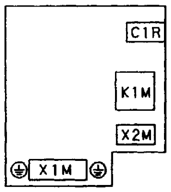


กล่องสวิทช์

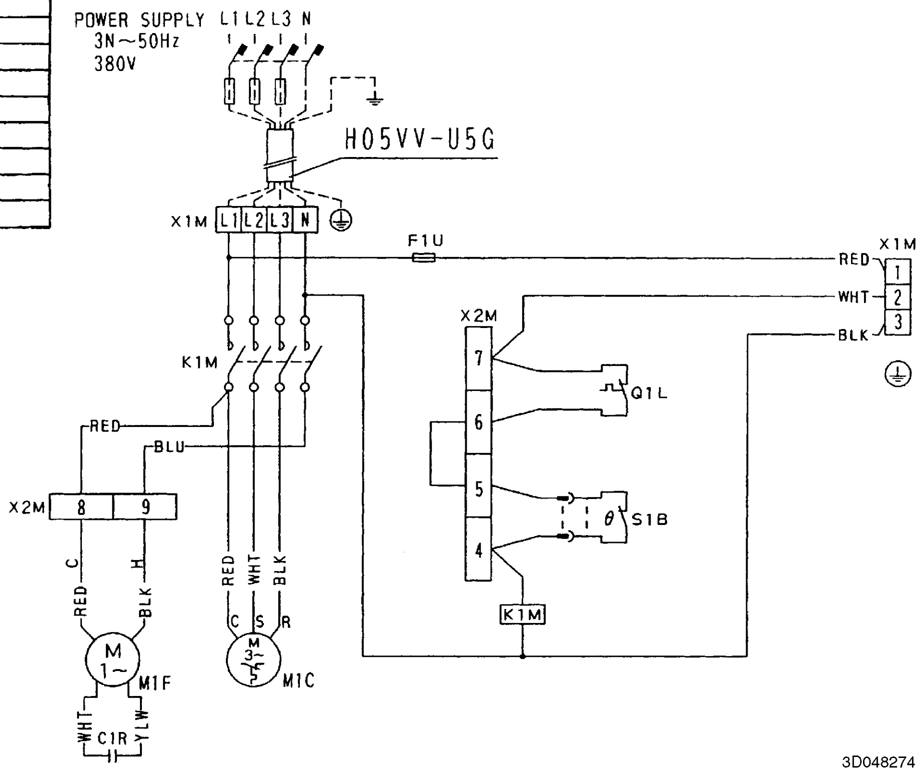
3D048125

RG71AY1S

L1-RED	L2-WHT	L3-BLK	N-BLU
C1R	ตัวเก็บประจุ (M1F)		
F1U	ฟิวส์(250 V. 5 A)		
K1M	ขั้วสัมผัสแม่เหล็ก (M1C)		
M1C	มอเตอร์ (คอมเพรสเซอร์)		
M1F	มอเตอร์ (พัดลม)		
Q1L	สวิทช์อุณหภูมิ (M1F)		
S1B	สวิทช์อุณหภูมิ (ท่อระบาย)		
X1M	ขั้วต่อสายไฟ		
X2M	ขั้วต่อสายไฟ		



กล่องสวิทช์



หมายเหตุ)1. : ขั้วต่อสายไฟฟ้า

: ห่วงรัดสายไฟฟ้า

: หัวต่อสายไฟฟ้า

2. ----- : สายที่ต้องเดิน

3. คำอธิบายสัญลักษณ์

BLK:สีดำ RED:สีแดง BLU:สีน้ำเงิน

WHT:สีขาว YLW:สีเหลือง

3D048274

R100FUV1S

L−RED	N−BLU
C1R・C2R	ตัวเก็บประจุ (M1F • M2F)
C 3 R	ตัวเก็บประจุ (M1C)
F 1 U	ฟิวส์ (250V, 5A)
K 1 M	ขั้วสัมผัสแม่เหล็ก (M1C)
M 1 C	มอเตอร์ (คอมเพรสเซอร์)
M1F・M2F	มอเตอร์ (พัดลม)
Q1L・Q2L	เทอร์โมสวิตช์ (M1F • M2F)
S 1 B	เทอร์โมสวิตช์ (ท่อดิสชาร์จ)
X 1 M	ครีบต่อสาย
X 2 M	ครีบต่อสาย

ข้อสังเกต) 1. : ขั้วไฟฟ้า

: ปลอกลัด (clamp) สายไฟ

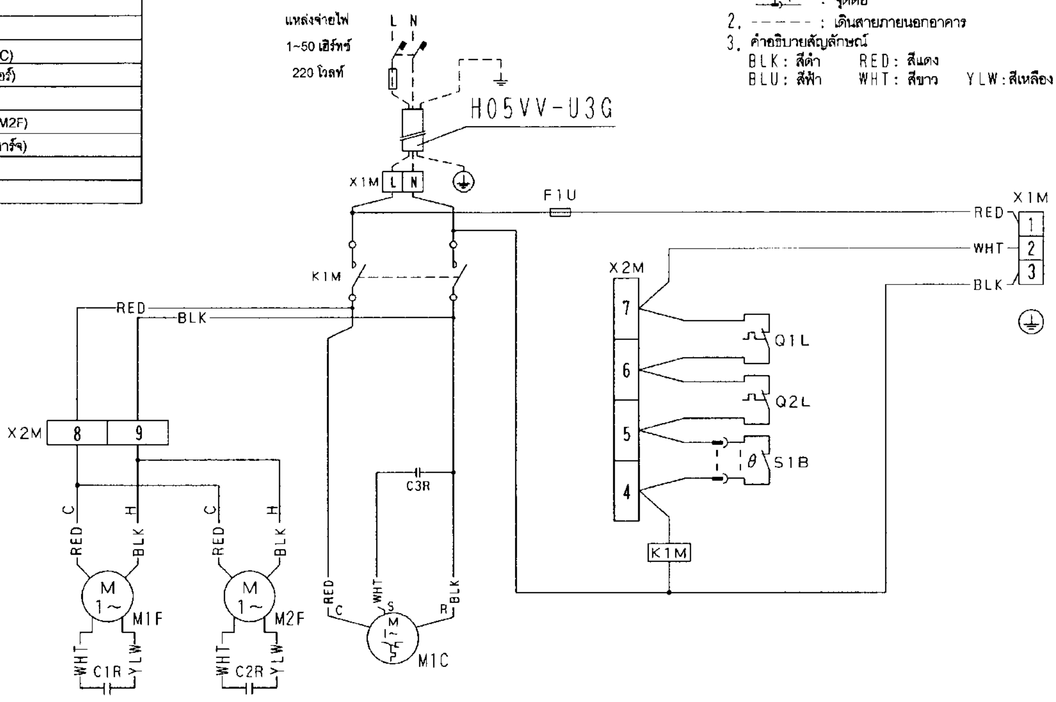
: จุดต่อ

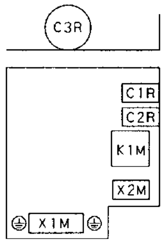
2. ------ : เดินสายภายนอกอาคาร

3. คำอธิบายสัญลักษณ์

BLK : สีดำ RED : สีแดง

BLU : สีฟ้า WHT : สีขาว YLW : สีเหลือง



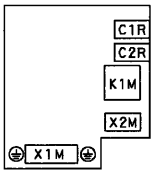


กล่องสวิตช์

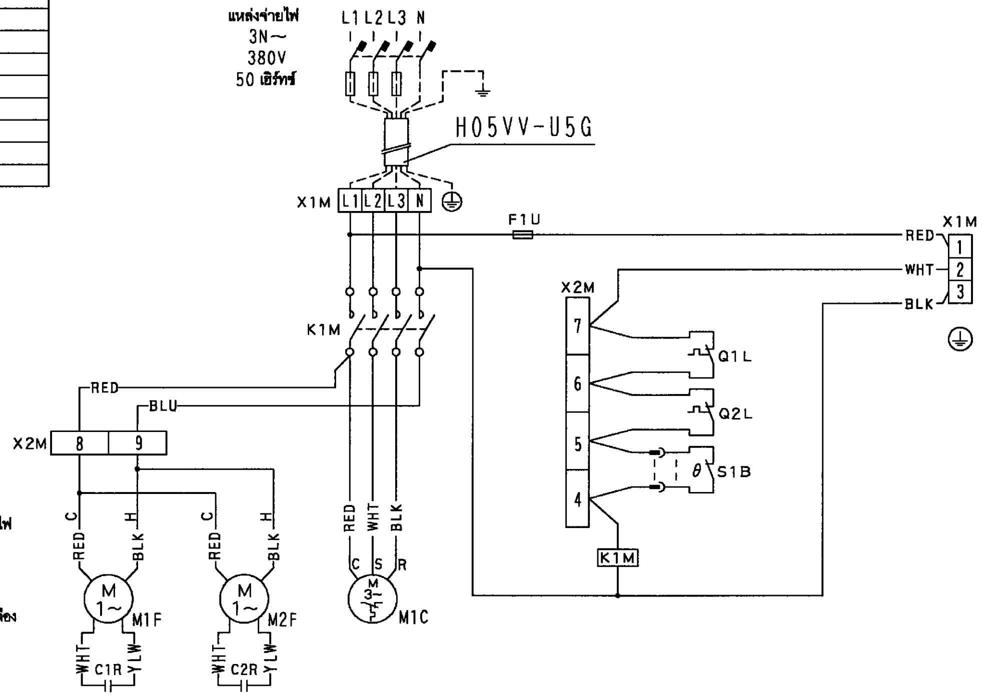
3D049512

R100FUY1S
R125FUY1S

L1-RED	L2-WHT	L3-BLK	N-BLU
C1R·C2R	ตัวเก็บประจุ (M1F • M2F)		
F1U	ฟิวส์ (250V,5A)		
K1M	ขั้วสัมผัสแม่เหล็ก (M1C)		
M1C	มอเตอร์ (คอมเพรสเซอร์)		
M1F·M2F	มอเตอร์ (พัดลม)		
Q1L·Q2L	เทอร์โมสวิตช์ (M1F • M2F)		
S1B	เทอร์โมสวิตช์ (ท่อดิสชาร์จ)		
X1M	ครีบต่อสาย		
X2M	ครีบต่อสาย		



กล่องสวิตช์

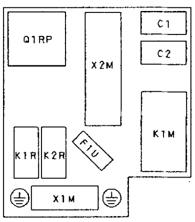


ข้อสังเกต) 1. ☐☐☐☐ : ขั้วไฟฟ้า
-○- : ปลอกลัด (clamp) สายไฟ
: จุดต่อ
2. ------ : เดินสายภายนอกอาคาร
3. คำอธิบายสัญลักษณ์
BLK : สีดำ RED : สีแดง
BLU : สีฟ้า WHT : สีขาว YLW : สีเหลือง

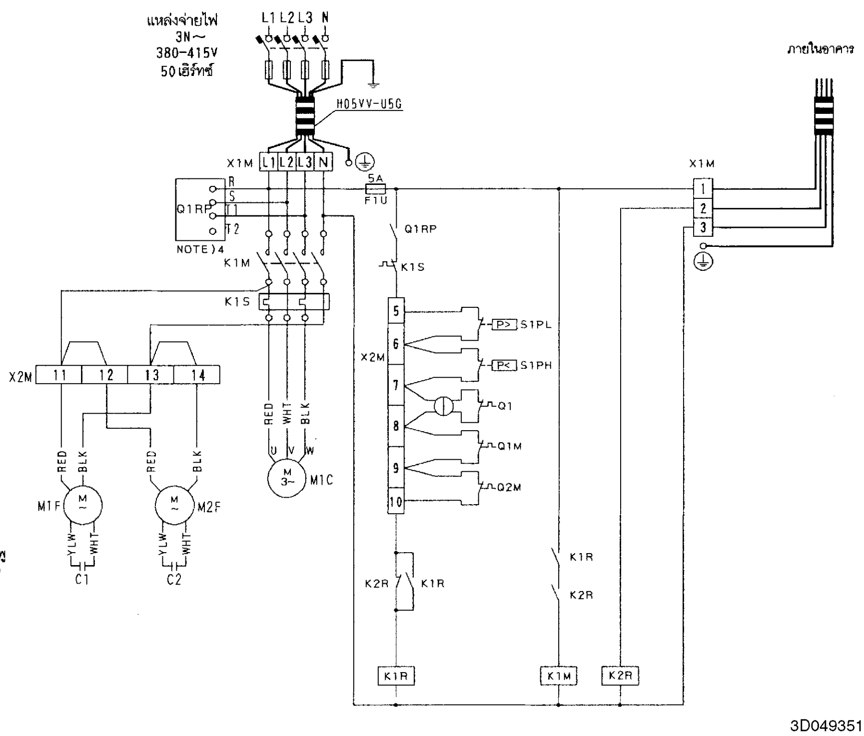
3D049396A

RG140AY1S
RG180AY1S

L1-RED	L2-WHT	L3-BLK	N-BLU
C1·C2	ตัวเก็บประจุ (M1F•M2F)		
F1U	ฟิวส์ (250V 5A)		
K1S	โอเวอร์เคอเรนต์รีเลย์ (M1C)		
K1M	ขั้วสัมผัสแม่เหล็ก (M1C)		
K1R·K2R	รีเลย์แม่เหล็กไฟฟ้า		
M1C	มอเตอร์ (คอมเพรสเซอร์)		
M1F·M2F	มอเตอร์ (พัดลม)		
Q1M·Q2M	เทอร์โมสวิตช์ (M1F•M2F)		
Q1RP	ตัวป้องกันการกลับเฟส		
QI	เทอร์โมสวิตช์ (ท่อดิสชาร์จ)		
S1PH	สวิตช์ความดัน (สูง)		
S1PL	สวิตช์ความดัน (ต่ำ)		
X1M·X2M	ครีบต่อสาย		



กล่องสวิตช์



1. ☐☐☐☐ : ขั้วไฟฟ้า
-○- : ปลอกลัด (clamp) สายไฟ
2. : เดินสายภายนอกอาคาร
3. คำอธิบายสัญลักษณ์
BLK : สีดำ RED : สีแดง ORA : สีส้ม PNK : สีชมพู
BLU : สีฟ้า WHT : สีขาว YLW : สีเหลือง GRY : สีเทา
4. เปลี่ยนการเชื่อมต่อของครีบต่อสายและตัวป้องกันกระแสเกินตามตารางที่ 1.

ตารางที่ 1. ✱ FACTORY CONNECTION

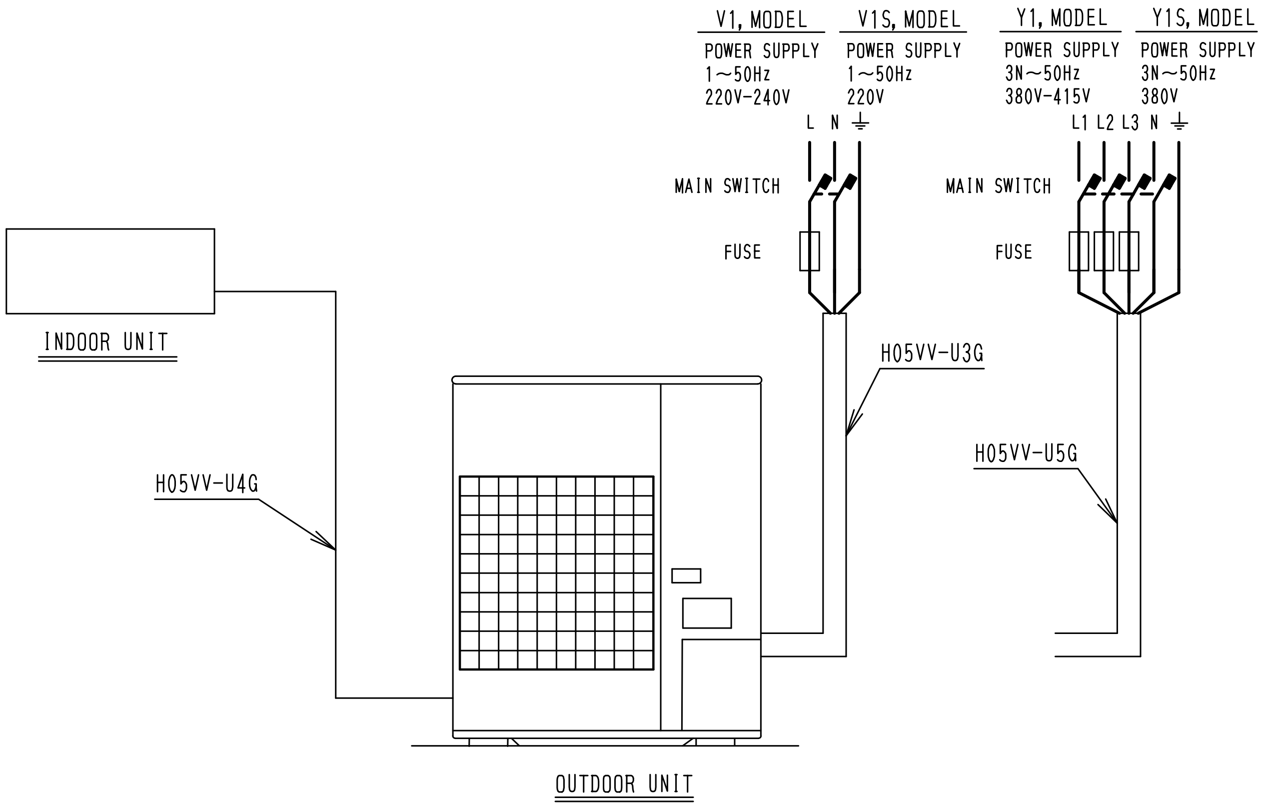
VOLTAGE	TERMINAL
380V	✱R-S-T1
400 • 415V	R-S-T2

3D049351

8.5 Field Wiring

Notes 1) ——— Line voltage wiring
——— Control circuit wiring

2) All wiring, components and materials to be procured on the site must comply with the applicable local and national codes.
3) Use copper conductor only.
4) As for details, see wiring diagrams.
5) Install fuse and mainswitch for safety.
6) All field wiring and components must be provided by a licensed electrician.
7) Unit shall be grounded in compliance with the applicable local and national codes.
8) Wiring shown are general points-of-connection guides only and are not intended for or to include all details for a specific installation.
9) The outdoor units for 3 phase, are equipped with a reverse phase protector to protect the compressor. If the compressor dose not operate during the test run, exchange two phase connections out of three.
10) Never share a common power source with other equipment.



C : 4D049499

9. Capacity Table

9.1 50Hz

FDMG71AV1 + RG71AV1
FDMG71AV1 + RG71AY1

Cooling Capacity (50Hz)

INDOOR		Outdoor temperature (℃DB)																							
EWB (℃)	EDB (℃)	21			25			30			35			40			45			50			52		
		TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20	8.2	5.8	2.58	7.9	5.7	2.64	7.6	5.4	2.79	7.2	5.3	2.92	6.9	5.1	3.06	6.6	4.9	3.21	6.2	4.7	3.38	6.0	4.6	3.45
16.0	22	8.8	6.0	2.65	8.5	5.9	2.74	8.1	5.7	2.87	7.8	5.4	3.00	7.3	5.3	3.15	7.0	5.1	3.31	6.7	5.1	3.48	6.6	4.9	3.55
18.0	25	9.5	6.2	2.72	9.2	6.1	2.81	8.7	5.9	2.95	8.4	5.7	3.09	7.9	5.4	3.24	7.6	5.3	3.41	7.1	5.1	3.59	7.0	5.1	3.66
19.0	27	9.8	6.3	2.75	9.5	6.1	2.85	9.0	6.0	2.99	8.7	5.8	3.13	8.2	5.5	3.29	7.8	5.4	3.46	7.5	5.2	3.64	7.2	5.1	3.71
19.5	27	9.9	6.4	2.77	9.6	6.3	2.87	9.3	6.1	3.01	8.8	6.0	3.15	8.4	5.8	3.31	7.9	5.5	3.49	7.6	5.4	3.67	7.3	5.3	3.74
22.0	30	10.8	6.6	2.86	10.5	6.4	2.97	10.1	6.2	3.11	9.6	6.1	3.27	9.2	5.9	3.43	8.7	5.7	3.61	8.2	5.5	3.80	8.0	5.4	3.88
24.0	32	11.6	6.8	2.94	11.2	6.7	3.05	10.7	6.4	3.20	10.3	6.2	3.36	9.7	6.1	3.53	9.3	5.9	3.72	8.8	5.7	3.91	/	/	/

Symbols:
AFR: Air flow rate (m^3/min.)
BF : Bypass factor
EWB: Entering wet bulb temp. (℃WB)
EDB: Entering dry bulb temp. (℃DB)
TC : Total cooling capacity (kW)
SHC: Sensible heat capacity (kW)
PI : Power input (kW)
(Comp.+indoor+outdoor fan motor).

Caution
TC and SHC are shown by kW.

Notes:
1. Ratings shown are gross capacities which include a deduction for indoor fan motor heat.
2. ☐ shows nominal capacities.
3. SHC is based on each EWB and EDB.
SHC'=SHC correction for other dry bulb. (DB')
=0.02xAFR×(1−BF)×(DB'−EDB)
Add SHC' to SHC.
4. Direct interpolation is permissible.
Do not extrapolate.
5. Capacities are based on the following conditions.
Corresponding refrigerant piping length :5m
Level difference :0m
6. The value contains less than 5% error according to indoor unit type.

6. Air flow rate and (BF) are taburated below.

	FDMG
AFR (BF)	23 (0.12)

3D049370

FDMG100AV1 + R100FUV1
FDMG100AV1 + R100FUY1

Cooling Capacity (50Hz)

INDOOR		Outdoor temperature (℃DB)																							
EWB (℃)	EDB (℃)	21			25			30			35			40			45			50			52		
		TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20	9.8	6.6	3.21	9.5	6.4	3.36	9.1	6.2	3.53	8.7	6.0	3.69	8.3	5.8	3.84	7.9	5.6	3.97	7.4	5.4	4.08	7.3	5.3	4.12
16.0	22	10.5	6.8	3.31	10.2	6.7	3.47	9.8	6.5	3.65	9.3	6.2	3.83	8.9	6.0	3.98	8.5	5.8	4.12	8.0	5.6	4.25	7.9	5.5	4.29
18.0	25	11.3	7.1	3.42	11.0	6.9	3.59	10.5	6.7	3.79	10.1	6.5	3.97	9.6	6.3	4.14	9.1	6.1	4.29	8.7	5.9	4.42	8.5	5.8	4.48
19.0	27	11.7	7.2	3.48	11.3	7.0	3.65	10.9	6.8	3.88	10.5	6.6	4.04	10.0	6.4	4.22	9.5	6.2	4.37	9.0	6.0	4.52	8.8	5.9	4.57
19.5	27	11.9	7.4	3.51	11.5	7.2	3.68	11.1	7.0	3.89	10.6	6.8	4.08	10.1	6.6	4.26	9.7	6.4	4.42	9.2	6.2	4.56	9.0	6.1	4.62
22.0	30	13.0	7.5	3.67	12.6	7.3	3.86	12.1	7.1	4.08	11.6	6.9	4.28	11.1	6.7	4.47	10.6	6.5	4.65	10.0	6.3	4.81	9.8	6.2	4.86
24.0	32	13.9	7.7	3.82	13.5	7.5	4.01	12.9	7.3	4.24	12.4	7.1	4.46	11.9	6.9	4.66	11.3	6.7	4.84	10.8	6.5	5.01	/	/	/

Symbols:
AFR: Air flow rate (m^3/min.)
BF : Bypass factor
EWB: Entering wet bulb temp. (℃WB)
EDB: Entering dry bulb temp. (℃DB)
TC : Total cooling capacity (kW)
SHC: Sensible heat capacity (kW)
PI : Power input (kW)
(Comp.+indoor+outdoor fan motor).

Caution
TC and SHC are shown by kW.

Notes:
1. Ratings shown are gross capacities which include a deduction for indoor fan motor heat.
2. ☐ shows nominal capacities.
3. SHC is based on each EWB and EDB.
SHC'=SHC correction for other dry bulb. (DB')
=0.02xAFR×(1−BF)×(DB'−EDB)
Add SHC' to SHC.
4. Direct interpolation is permissible.
Do not extrapolate beyond the out of Operation Limits drawing show.
5. Capacities are based on the following conditions.
Corresponding refrigerant piping length :5m
Level difference :0m
6. The valve contains less than 5% error according to indoor unit type.

6. Air flow rate and (BF) are taburated below.

	FDMG
AFR (BF)	34 (0.11)

3D049352

FDMG125AV1 + R125FUY1

Cooling Capacity 〔50Hz〕

INDOOR		Outdoor temperature (°C DB)																										
EWB (°C)	EDB (°C)	21			25			30			35			40			45			50			52		
		TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20	12.2	8.7	3.84	11.9	8.5	4.06	11.3	8.2	4.29	10.8	8.0	4.47	10.3	7.7	4.60	9.8	7.4	4.68	9.2	7.1	4.72	9.0	7.0	4.72
16.0	22	13.1	9.0	3.95	12.7	8.8	4.18	12.2	8.5	4.42	11.6	8.2	4.61	11.1	8.0	4.76	10.5	7.7	4.86	9.9	7.4	4.91	9.7	7.3	4.92
18.0	25	14.0	9.3	4.07	13.6	9.1	4.31	13.0	8.8	4.56	12.5	8.6	4.77	11.9	8.3	4.93	11.3	8.0	5.04	10.6	7.7	5.11	10.4	7.6	5.12
19.0	27	14.5	9.5	4.13	14.1	9.2	4.37	13.5	9.0	4.64	12.9	8.7	4.85	12.3	8.4	5.02	11.7	8.2	5.14	11.0	7.9	5.21	10.8	7.8	5.23
19.5	27	14.8	9.7	4.16	14.3	9.5	4.41	13.7	9.2	4.67	13.1	9.0	4.89	12.5	8.7	5.06	11.9	8.4	5.19	11.2	8.1	5.27	11.0	8.0	5.29
22.0	30	16.1	9.9	4.33	15.6	9.7	4.59	14.9	9.4	4.88	14.2	9.1	5.11	13.6	8.8	5.30	12.9	8.6	5.44	12.2	8.3	5.54	11.9	8.2	5.56
24.0	32	17.2	10.1	4.48	16.6	9.9	4.75	16.0	9.7	5.05	15.3	9.4	5.30	14.5	9.2	5.50	13.8	8.9	4.65	13.1	8.6	5.76	/	/	/

Symbols:
AFR: Air flow rate (m^3/min.)
BF : Bypass factor
EWB: Entering wet bulb temp. (°CWB)
EDB: Entering dry bulb temp. (°CDB)
TC : Total cooling capacity (kW)
SHC: Sensible heat capacity (kW)
PI : Power input (kW)
(Comp.+indoor+outdoor fan motor).

Caution
TC and SHC are shown by kW.

Notes:
1. Ratings shown are gross capacities which include a deduction for indoor fan motor heat.
2. ▭ shows nominal capacities.
3. SHC is based on each EWB and EDB.
   SHC'=SHC correction for other dry bulb.(DB')
   =0.02xAFRx(1-BF)x(DB'-EDB)
   Add SHC' to SHC.
4. Direct interpolation is permissible.
   Do not extrapolate beyond the out of Operation Limits drawing show.
5. Capacities are based on the following conditions.
   Corresponding refrigerant piping length :5m
   Level difference :0m
6. The valve contains less than 5% error according to indoor unit type.

6. Air flow rate and (BF) are taburated below.

	FDMG
AFR (BF)	37 (0.11)

3D049353

FDMG140AV1 + RG140AY1

Cooling Capacity 〔50Hz〕

INDOOR		Outdoor temperature (°C DB)																				
EWB (°C)	EDB (°C)	21			25			30			35			40			46			50		
		TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20	13.3	10.2	4.05	13.0	10.0	4.35	12.8	9.9	4.51	12.2	9.6	5.15	11.7	9.6	5.55	11.1	9.3	6.15	10.8	9.2	6.45
16.0	22	14.1	10.4	4.15	13.8	10.1	4.35	13.6	10.0	4.51	13.0	9.8	5.15	12.4	9.7	5.65	11.8	9.3	6.25	11.5	9.2	6.55
18.0	25	15.0	10.7	4.15	14.7	10.3	4.45	14.5	10.2	4.61	13.8	10.0	5.25	13.2	9.8	5.65	12.5	9.6	6.25	12.2	9.4	6.55
19.0	27	15.4	10.8	4.25	15.1	10.3	4.45	14.9	10.3	4.61	14.2	10.1	5.25	13.6	9.9	5.75	12.9	9.7	6.35	12.6	9.5	6.55
19.5	27	15.7	10.8	4.25	15.4	10.3	4.55	15.2	10.3	4.69	14.5	10.2	5.25	13.9	10.0	5.75	13.2	9.8	6.35	12.9	9.6	6.55
22.0	30	16.9	10.9	4.35	16.5	10.6	4.55	16.3	10.5	4.71	15.5	10.2	5.35	15.0	10.1	5.85	14.3	9.9	6.45	13.9	9.7	6.75
24.0	32	17.9	11.1	4.35	17.5	10.7	4.65	17.3	10.6	4.81	16.4	10.3	5.45	15.9	10.2	5.95	15.2	10.2	6.55	/	/	/

Symbols:
AFR: Air flow rate (m^3/min.)
BF : Bypass factor
EWB: Entering wet bulb temp. (°CWB)
EDB: Entering dry bulb temp. (°CDB)
TC : Total cooling capacity (kW)
SHC: Sensible heat capacity (kW)
PI : Power input (kW)
(Comp.+indoor+outdoor fan motor).

Caution
TC and SHC are shown by kW.

Notes:
1. Ratings shown are gross capacities which include a deduction for indoor fan motor heat.
2. ▭ shows nominal capacities.
3. SHC is based on each EWB and EDB.
   SHC'=SHC correction for other dry bulb.(DB')
   =0.02xAFRx(1-BF)x(DB'-EDB)
   Add SHC' to SHC.
4. Direct interpolation is permissible.
   Do not extrapolate beyond the out of Operation Limits drawing show.
5. Capacities are based on the following conditions.
   Corresponding refrigerant piping length :5m
   Level difference :0m
6. The valve contains less than 5% error according to indoor unit type.

6. Air flow rate and (BF) are taburated below.

	FDMG
AFR (BF)	40 (0.12)

3D049354

FDMG180AV1 + RG180AY1

Cooling Capacity 〔50Hz〕

INDOOR		Outdoor temperature (℃DB)																				
EWB (℃)	EDB (℃)	21			25			30			35			40			46			50		
		TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20	16.0	12.4	4.85	15.5	12.1	5.25	15.1	11.9	5.65	14.5	11.5	6.15	14.0	11.3	6.65	13.5	10.9	7.35	13.0	10.6	7.85
16.0	22	17.0	12.4	4.95	16.5	12.2	5.35	16.0	11.9	5.75	15.4	11.6	6.25	15.0	11.4	6.75	14.3	11.3	7.45	13.8	10.6	7.95
18.0	25	18.1	13.2	5.05	17.6	12.9	5.45	17.0	12.7	5.85	16.5	12.3	6.35	16.0	12.0	6.95	15.2	11.7	7.55	14.6	11.3	8.15
19.0	27	18.5	13.4	5.15	18.2	13.2	5.45	17.6	12.9	5.95	17.0	12.7	6.45	16.3	12.3	6.95	15.7	12.0	7.65	15.2	11.7	8.15
19.5	27	18.9	13.4	5.15	18.4	13.2	5.45	17.7	12.9	5.95	17.2	12.7	6.45	16.6	12.3	6.95	16.0	12.0	7.65	15.4	11.7	8.15
22.0	30	20.4	13.8	5.25	19.9	13.6	5.65	19.2	13.2	6.05	18.5	13.0	6.65	18.0	12.5	7.15	17.2	12.3	7.85	16.6	12.1	8.35
24.0	32	21.5	13.8	5.35	21.1	13.6	5.75	20.4	13.2	6.25	19.8	13.0	6.75	19.0	12.5	7.25	18.2	12.3	7.95	/	/	/

Symbols:
AFR: Air flow rate (m^3/min.)
BF : Bypass factor
EWB: Entering wet bulb temp. (℃WB)
EDB: Entering dry bulb temp. (℃DB)
TC : Total cooling capacity (kW)
SHC: Sensible heat capacity (kW)
PI : Power input (kW)
(Comp.+indoor+outdoor fan motor).

Caution
TC and SHC are shown by kW.

Notes:
1. Ratings shown are gross capacities which include a deduction for indoor fan motor heat.
2. ▭ shows nominal capacities.
3. SHC is based on each EWB and EDB.
SHC'=SHC correction for other dry bulb.(DB')
=0.02xAFRx(1−BF)x(DB'−EDB)
Add SHC' to SHC.
4. Direct interpolation is permissible.
Do not extrapolate beyond the out of Operation Limits drawing show.
5. Capacities are based on the following conditions.
Corresponding refrigerant piping length :5m
Level difference :0m
6. The valve contains less than 5% error according to indoor unit type.

6. Air flow rate and (BF) are taburated below.

	FDMG
AFR (BF)	40 (0.12)

3D049361

9.2 50Hz (For Thailand)

FDMG71AV1S + RG71AV1S
FDMG71AV1S + RG71AY1S

Cooling Capacity 〔50Hz〕

INDOOR		Outdoor temperature (℃DB)																
EWB (℃)	EDB (℃)	21			25			30			35			40			46		
		TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20	8.2	5.8	2.58	7.9	5.7	2.64	7.6	5.4	2.79	7.2	5.3	2.92	6.9	5.1	3.06	6.5	4.9	3.24
16.0	22	8.8	6.0	2.65	8.5	5.9	2.74	8.1	5.7	2.87	7.8	5.4	3.00	7.3	5.3	3.15	6.9	5.1	3.34
18.0	25	9.5	6.2	2.72	9.2	6.1	2.81	8.7	5.9	2.95	8.4	5.7	3.09	7.9	5.4	3.24	7.5	5.3	3.45
19.0	27	9.8	6.3	2.75	9.5	6.1	2.85	9.0	6.0	2.99	8.7	5.8	3.13	8.2	5.5	3.29	7.7	5.4	3.50
19.5	27	9.9	6.4	2.77	9.6	6.3	2.87	9.3	6.1	3.01	8.8	6.0	3.15	8.4	5.8	3.31	7.8	5.5	3.53
22.0	30	10.8	6.6	2.86	10.5	6.4	2.97	10.1	6.2	3.11	9.6	6.1	3.27	9.2	5.9	3.43	8.6	5.7	3.65
24.0	32	11.6	6.8	2.94	11.2	6.7	3.05	10.7	6.4	3.20	10.3	6.2	3.36	9.7	6.1	3.53	9.2	5.9	3.76

Symbols:
AFR: Air flow rate (m^3/min.)
BF : Bypass factor
EWB: Entering wet bulb temp. (℃WB)
EDB: Entering dry bulb temp. (℃DB)
TC : Total cooling capacity (kW)
SHC: Sensible heat capacity (kW)
PI : Power input (kW)
(Comp.+indoor+outdoor fan motor).

Caution
TC and SHC are shown by kW.

Notes:
1. Ratings shown are gross capacities which include a deduction for indoor fan motor heat.
2. ▭ shows nominal capacities.
3. SHC is based on each EWB and EDB.
SHC'=SHC correction for other dry bulb.(DB')
=0.02xAFRx(1−BF)x(DB'−EDB)
Add SHC' to SHC.
4. Direct interpolation is permissible.
Do not extrapolate.
5. Capacities are based on the following conditions.
Corresponding refrigerant piping length :5m
Level difference :0m
6. The value contains less than 5% error according to indoor unit type.

6. Air flow rate and (BF) are taburated below.

	FDMG
AFR (BF)	23 (0.12)

3D049495

FDMG100AV1S + R100FUV1S
FDMG100AV1S + R100FUY1S

Cooling Capacity 〔50Hz〕

INDOOR		Outdoor temperature (℃DB)																	
EWB (℃)	EDB (℃)	21			25			30			35			40			46		
		TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20	9.8	6.6	3.21	9.5	6.4	3.36	9.1	6.2	3.53	8.7	6.0	3.69	8.3	5.8	3.84	7.8	5.6	3.99
16.0	22	10.5	6.8	3.31	10.2	6.7	3.47	9.8	6.5	3.65	9.3	6.2	3.83	8.9	6.0	3.98	8.4	5.8	4.15
18.0	25	11.3	7.1	3.42	11.0	6.9	3.59	10.5	6.7	3.79	10.1	6.5	3.97	9.6	6.3	4.14	9.0	6.1	4.32
19.0	27	11.7	7.2	3.48	11.3	7.0	3.65	10.9	6.8	3.88	10.5	6.6	4.04	10.0	6.4	4.22	9.4	6.2	4.40
19.5	27	11.9	7.4	3.51	11.5	7.2	3.68	11.1	7.0	3.89	10.6	6.8	4.08	10.1	6.6	4.26	9.6	6.4	4.45
22.0	30	13.0	7.5	3.67	12.6	7.3	3.86	12.1	7.1	4.08	11.6	6.9	4.28	11.1	6.7	4.47	10.5	6.5	4.68
24.0	32	13.9	7.7	3.82	13.5	7.5	4.01	12.9	7.3	4.24	12.4	7.1	4.46	11.9	6.9	4.66	11.2	6.7	4.87

Symbols:
AFR: Air flow rate (m^3/min.)
BF : Bypass factor
EWB: Entering wet bulb temp. (℃WB)
EDB: Entering dry bulb temp. (℃DB)
TC : Total cooling capacity (kW)
SHC: Sensible heat capacity (kW)
PI : Power input (kW)
(Comp.+indoor+outdoor fan motor).

Caution
TC and SHC are shown by kW.

Notes:
1. Ratings shown are gross capacities which include a deduction for indoor fan motor heat.
2. ▭ shows nominal capacities.
3. SHC is based on each EWB and EDB.
SHC'=SHC correction for other dry bulb.(DB')
=0.02xAFRx(1−BF)x(DB'−EDB)
Add SHC' to SHC.
4. Direct interpolation is permissible.
Do not extrapolate beyond the out of Operation Limits drawing show.
5. Capacities are based on the following conditions.
Corresponding refrigerant piping length :5m
Level difference :0m
6. The valve contains less than 5% error according to indoor unit type.
6. Air flow rate and (BF) are taburated below.

	FDMG
AFR (BF)	34 (0.11)

3D049494

FDMG125AV1S + R125FUY1S

Cooling Capacity 〔50Hz〕

INDOOR		Outdoor temperature (℃DB)																	
EWB (℃)	EDB (℃)	21			25			30			35			40			46		
		TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20	12.2	8.7	3.84	11.9	8.5	4.06	11.3	8.2	4.29	10.8	8.0	4.47	10.3	7.7	4.60	9.7	7.3	4.69
16.0	22	13.1	9.0	3.95	12.7	8.8	4.18	12.2	8.5	4.42	11.6	8.2	4.61	11.1	8.0	4.76	10.4	7.6	4.87
18.0	25	14.0	9.3	4.07	13.6	9.1	4.31	13.0	8.8	4.56	12.5	8.6	4.77	11.9	8.3	4.93	11.2	7.9	5.05
19.0	27	14.5	9.5	4.13	14.1	9.2	4.37	13.5	9.0	4.64	12.9	8.7	4.85	12.3	8.4	5.02	11.6	8.1	5.15
19.5	27	14.8	9.7	4.16	14.3	9.5	4.41	13.7	9.2	4.67	13.1	9.0	4.89	12.5	8.7	5.06	11.8	8.3	5.21
22.0	30	16.1	9.9	4.33	15.6	9.7	4.59	14.9	9.4	4.88	14.2	9.1	5.11	13.6	8.8	5.30	12.8	8.5	5.46
24.0	32	17.2	10.1	4.48	16.6	9.9	4.75	16.0	9.7	5.05	15.3	9.4	5.30	14.5	9.2	5.50	13.7	8.8	4.87

Symbols:
AFR: Air flow rate (m^3/min.)
BF : Bypass factor
EWB: Entering wet bulb temp. (℃WB)
EDB: Entering dry bulb temp. (℃DB)
TC : Total cooling capacity (kW)
SHC: Sensible heat capacity (kW)
PI : Power input (kW)
(Comp.+indoor+outdoor fan motor).

Caution
TC and SHC are shown by kW.

Notes:
1. Ratings shown are gross capacities which include a deduction for indoor fan motor heat.
2. ▭ shows nominal capacities.
3. SHC is based on each EWB and EDB.
SHC'=SHC correction for other dry bulb.(DB')
=0.02xAFRx(1−BF)x(DB'−EDB)
Add SHC' to SHC.
4. Direct interpolation is permissible.
Do not extrapolate beyond the out of Operation Limits drawing show.
5. Capacities are based on the following conditions.
Corresponding refrigerant piping length :5m
Level difference :0m
6. The valve contains less than 5% error according to indoor unit type.
6. Air flow rate and (BF) are taburated below.

	FDMG
AFR (BF)	37 (0.11)

3D049496

FDMG140AV1S + RG140AY1S

Cooling Capacity 〔50Hz〕

INDOOR		Outdoor temperature (℃DB)																	
EWB	EDB	21			25			30			35			40			46		
(℃)	(℃)	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20	13.3	10.2	4.05	13.0	10.0	4.35	12.8	9.9	4.51	12.2	9.6	5.15	11.7	9.6	5.55	11.1	9.3	6.15
16.0	22	14.1	10.4	4.15	13.8	10.1	4.35	13.6	10.0	4.51	13.0	9.8	5.15	12.4	9.7	5.65	11.8	9.3	6.25
18.0	25	15.0	10.7	4.15	14.7	10.3	4.45	14.5	10.2	4.61	13.8	10.0	5.25	13.2	9.8	5.65	12.5	9.6	6.25
19.0	27	15.4	10.8	4.25	15.1	10.3	4.45	14.9	10.3	4.61	14.2	10.1	5.25	13.6	9.9	5.75	12.9	9.7	6.35
19.5	27	15.7	10.8	4.25	15.4	10.3	4.55	15.2	10.3	4.69	14.5	10.2	5.25	13.9	10.0	5.75	13.2	9.8	6.35
22.0	30	16.9	10.9	4.35	16.5	10.6	4.55	16.3	10.5	4.71	15.5	10.2	5.35	15.0	10.1	5.85	14.3	9.9	6.45
24.0	32	17.9	11.1	4.35	17.5	10.7	4.65	17.3	10.6	4.81	16.4	10.3	5.45	15.9	10.2	5.95	15.2	10.2	6.55

Symbols:
AFR: Air flow rate (m³/min.)
BF : Bypass factor
EWB: Entering wet bulb temp. (℃WB)
EDB: Entering dry bulb temp. (℃DB)
TC : Total cooling capacity (kW)
SHC: Sensible heat capacity (kW)
PI : Power input (kW)
(Comp.+indoor+outdoor fan motor).

Caution
TC and SHC are shown by kW.

Notes:
1. Ratings shown are gross capacities which include a deduction for indoor fan motor heat.
2. ▭ shows nominal capacities.
3. SHC is based on each EWB and EDB.
SHC'=SHC correction for other dry bulb.(DB')
=0.02xAFRx(1−BF)x(DB'−EDB)
Add SHC' to SHC.
4. Direct interpolation is permissible.
Do not extrapolate beyond the out of Operation Limits drawing show.
5. Capacities are based on the following conditions.
Corresponding refrigerant piping length :5m
Level difference :0m
6. The valve contains less than 5% error according to indoor unit type.

6. Air flow rate and (BF) are tabulated below.

	FDMG
AFR (BF)	40 (0.12)

3D049497

FDMG180AV1S + RG180AY1S

Cooling Capacity 〔50Hz〕

INDOOR		Outdoor temperature (℃DB)																	
EWB	EDB	21			25			30			35			40			46		
(℃)	(℃)	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20	16.0	12.4	4.85	15.5	12.1	5.25	15.1	11.9	5.65	14.5	11.5	6.15	14.0	11.3	6.65	13.5	10.9	7.35
16.0	22	17.0	12.4	4.95	16.5	12.2	5.35	16.0	11.9	5.75	15.4	11.6	6.25	15.0	11.4	6.75	14.3	11.3	7.45
18.0	25	18.1	13.2	5.05	17.6	12.9	5.45	17.0	12.7	5.85	16.5	12.3	6.35	16.0	12.0	6.95	15.2	11.7	7.55
19.0	27	18.5	13.4	5.15	18.2	13.2	5.45	17.6	12.9	5.95	17.0	12.7	6.45	16.3	12.3	6.95	15.7	12.0	7.65
19.5	27	18.9	13.4	5.15	18.4	13.2	5.45	17.7	12.9	5.95	17.2	12.7	6.45	16.6	12.3	6.95	16.0	12.0	7.65
22.0	30	20.4	13.8	5.25	19.9	13.6	5.65	19.2	13.2	6.05	18.5	13.0	6.65	18.0	12.5	7.15	17.2	12.3	7.85
24.0	32	21.5	13.8	5.35	21.1	13.6	5.75	20.4	13.2	6.25	19.8	13.0	6.75	19.0	12.5	7.25	18.2	12.3	7.95

Symbols:
AFR: Air flow rate (m³/min.)
BF : Bypass factor
EWB: Entering wet bulb temp. (℃WB)
EDB: Entering dry bulb temp. (℃DB)
TC : Total cooling capacity (kW)
SHC: Sensible heat capacity (kW)
PI : Power input (kW)
(Comp.+indoor+outdoor fan motor).

Caution
TC and SHC are shown by kW.

Notes:
1. Ratings shown are gross capacities which include a deduction for indoor fan motor heat.
2. ▭ shows nominal capacities.
3. SHC is based on each EWB and EDB.
SHC'=SHC correction for other dry bulb.(DB')
=0.02xAFRx(1−BF)x(DB'−EDB)
Add SHC' to SHC.
4. Direct interpolation is permissible.
Do not extrapolate beyond the out of Operation Limits drawing show.
5. Capacities are based on the following conditions.
Corresponding refrigerant piping length :5m
Level difference :0m
6. The valve contains less than 5% error according to indoor unit type.

6. Air flow rate and (BF) are tabulated below.

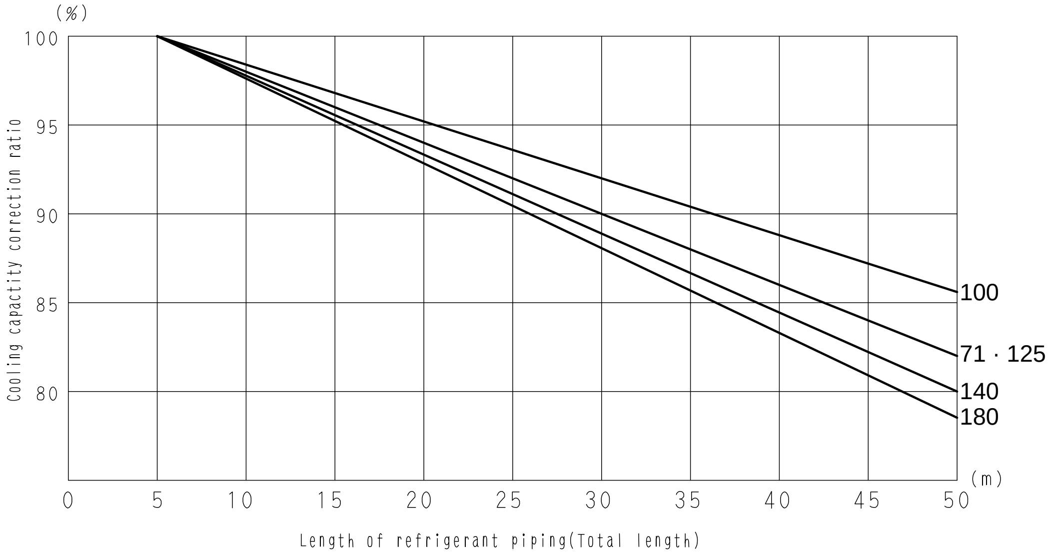
	FDMG
AFR (BF)	40 (0.12)

3D049498

9.3 Capacity Correction Factor by the Length of Refrigerant Piping

The cooling capacity of the unit has to be corrected in accordance with the length of refrigerant piping. (The distance between the indoor unit and the outdoor unit)

Reference Data



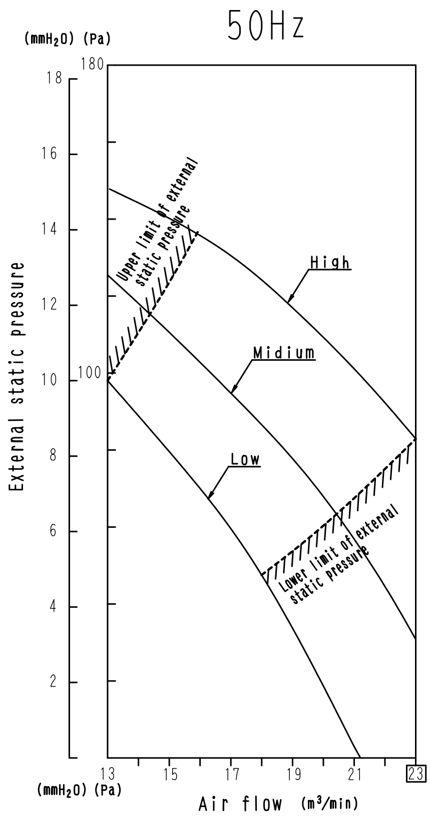
Notes:

1. ——— Line: Correction ratio for cooling capacity
2. The correction ratio remains the same whether the outdoor unit is to be installed above or below the indoor unit.
3. Calculation method for cooling capacity
   Capacity = Cooling capacity obtained from the capacity table × cooling capacity correction ratio.

3D049405

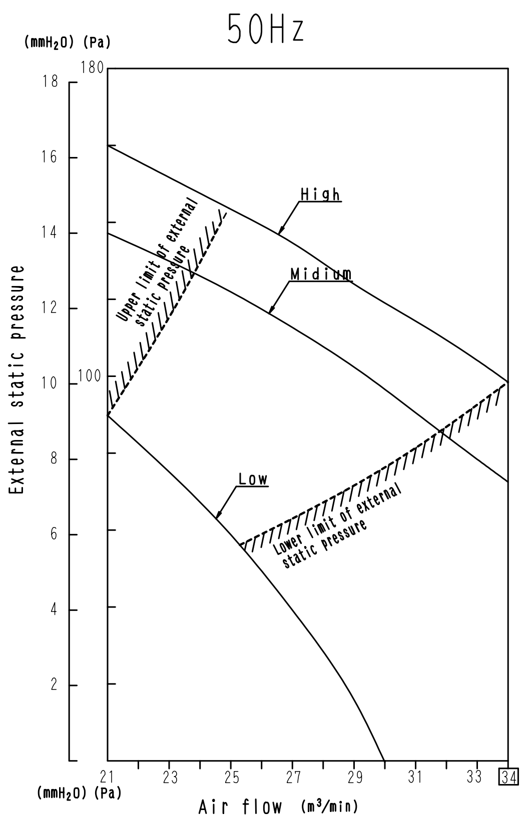
10. Fan Performance

FDMG71A



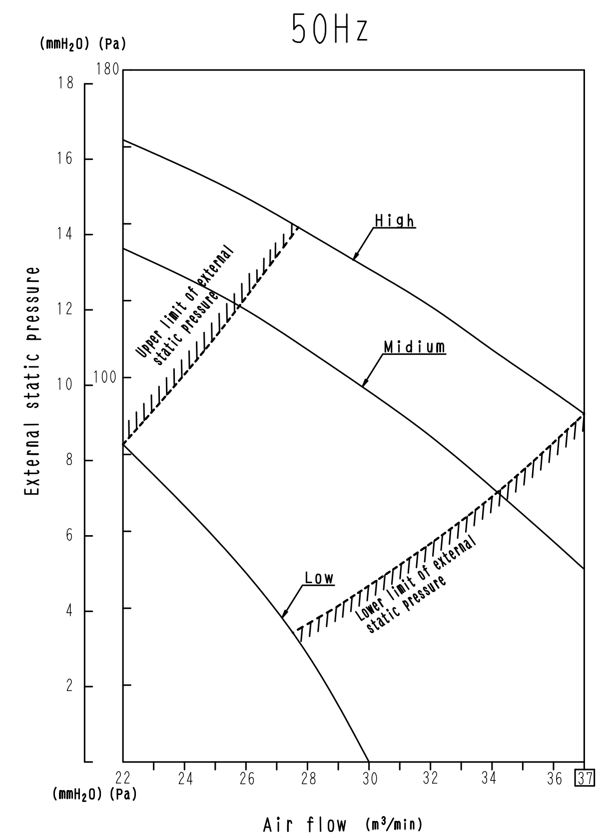
4D049493

FDMG100A



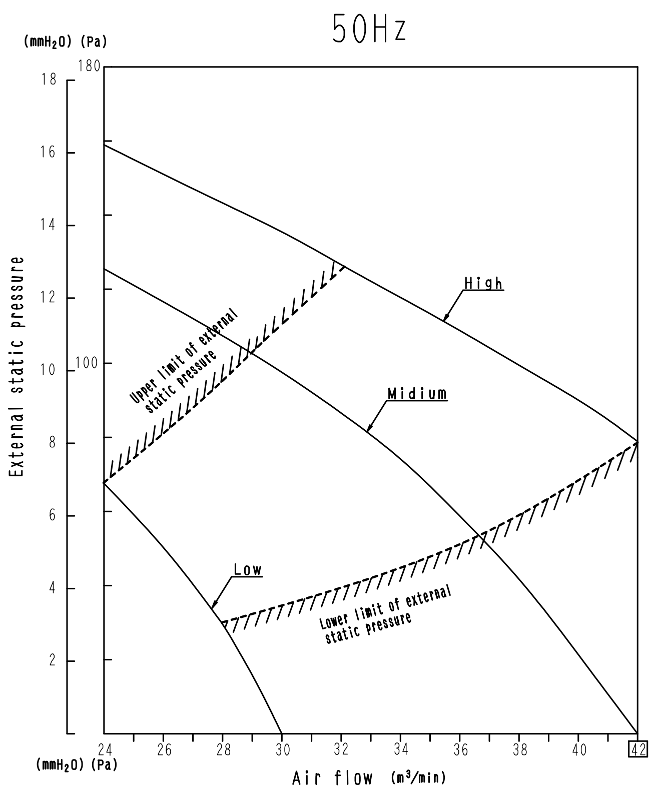
4D049487

FDMG125A



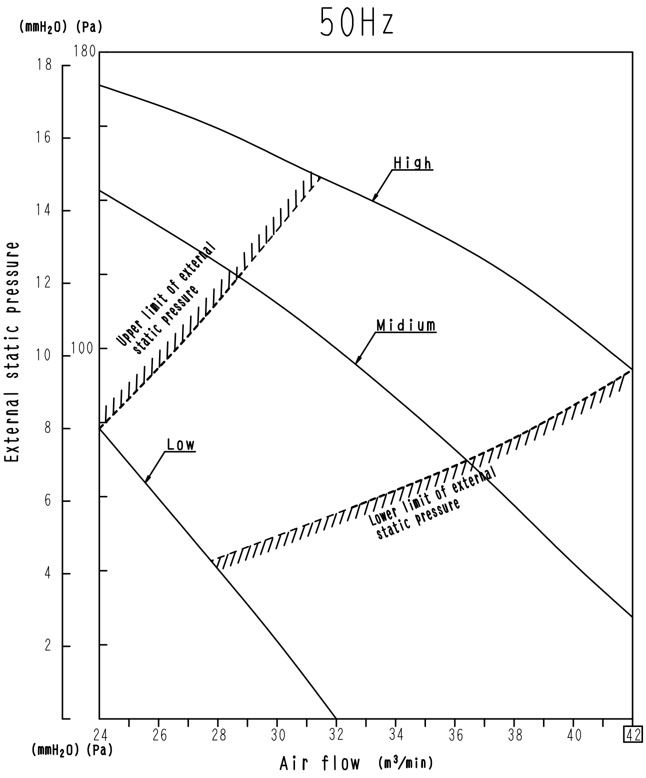
4D049488

FDMG140A



4D049489

FDMG180A

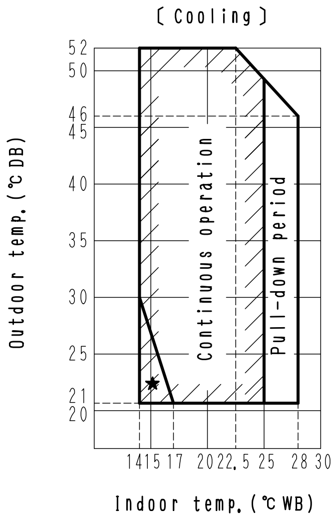


4D049490

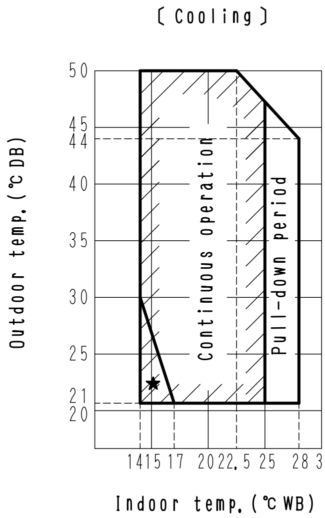
11. Operation Limit

11.1 50Hz

Model Name	
INDOOR	OUTDOOR
FDMG71AV1	RG71AV1 • Y1
FDMG100AV1	R100FUV1 • Y1
FDMG125AV1	R125FUY1



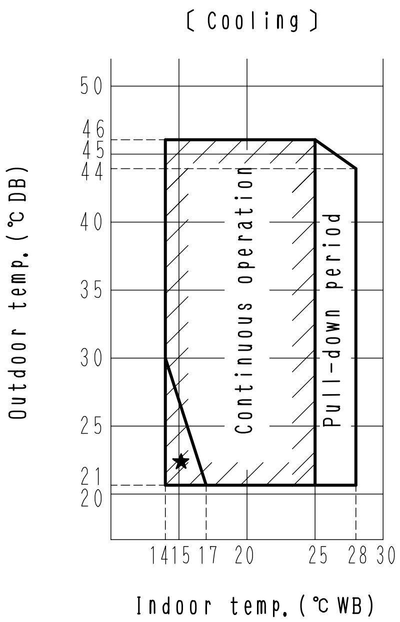
Model Name	
INDOOR	OUTDOOR
FDMG140AV1	RG140AY1
FDMG180AV1	RG180AY1



★:This may not be continuous operation area.

3D049299A

11.2 50Hz (For Thailand)



Model Name	
INDOOR	OUTDOOR
FDMG71AV1S	RG71AV1S • Y1S
FDMG100AV1S	R100FUV1S • Y1S
FDMG125AV1S	R125FUY1S
FDMG140AV1S	RG140AY1S
FDMG180AV1S	RG180AY1S

★:This may not be continuous operation area.

3D049481

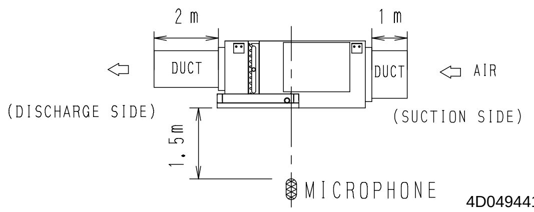
12. Sound Level

12.1 Overall Sound Level

12.1.1 Indoor Unit

dB(A)

Model	220V		240V		Measuring Location
	H	L	H	L	
FDMG71AV1(S)	42	38	43	39	
FDMG100AV1(S)	44	36	45	39	
FDMG125AV1(S)	45	37	46	40	
FDMG140AV1(S)	46	36	47	38	
FDMG180AV1(S)	47	37	48	39	

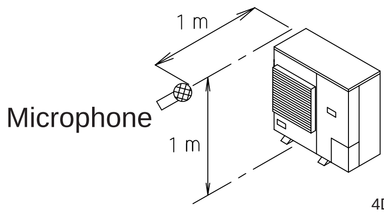


4D049441

12.1.2 Outdoor Unit

dB(A)

Model	220V		Measuring Location
RG71AV1(S)	52		
R100FUV1(S)	56		
Model	380V		
RG71AY1(S)	52		
R100FUY1(S)	56		
R125FUY1(S)	57		
Model	380V	415V	
RG140AY1	55	57	
RG180AY1	56	58	
Model	380V		
RG140AY1S	58		
RG180AY1S	59		

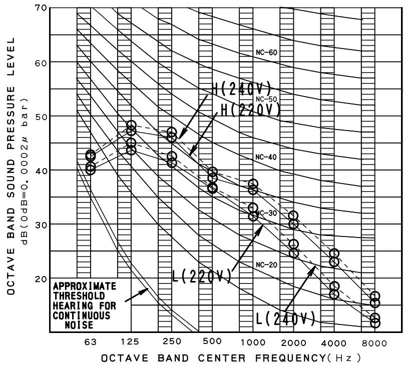


4D002309

12.2 Octave Band Level

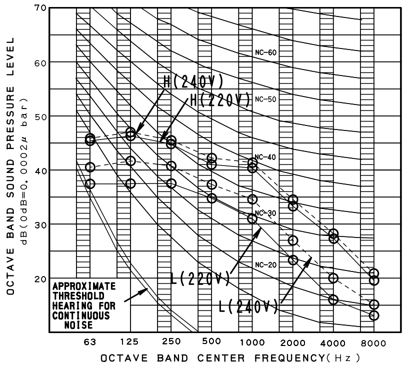
12.2.1 Indoor Unit

FDMG71AV1(S)



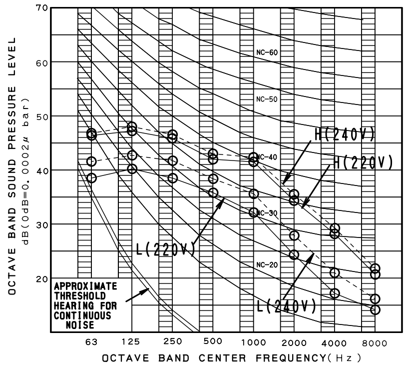
4D049441

FDMG100AV1(S)



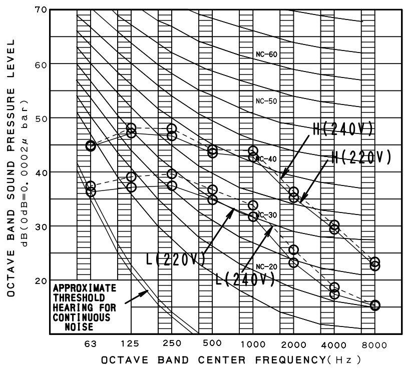
4D049442

FDMG125AV1(S)



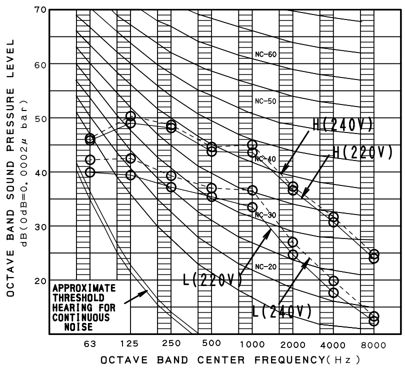
4D049427

FDMG140AV1(S)



4D049431

FDMG180AV1(S)



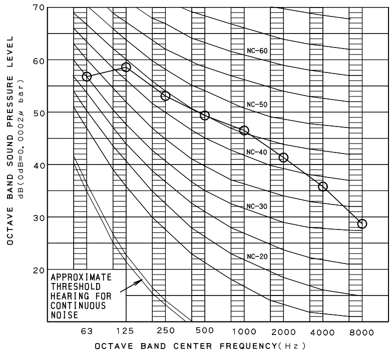
4D049433

Note:

○——○ 220V
○ - - - -○ 240V

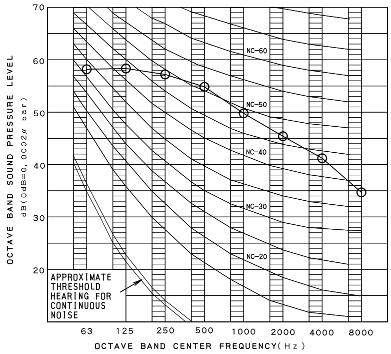
12.2.2 Outdoor Unit

RG71AV1(S)
RG71AY1(S)



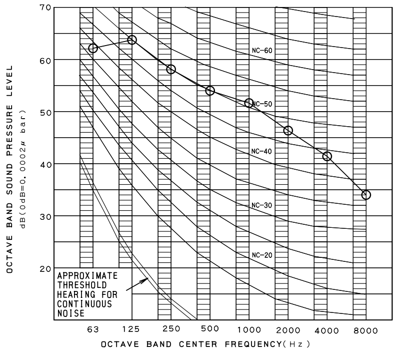
4D002309

R100FUV1(S)
R100FUY1(S)



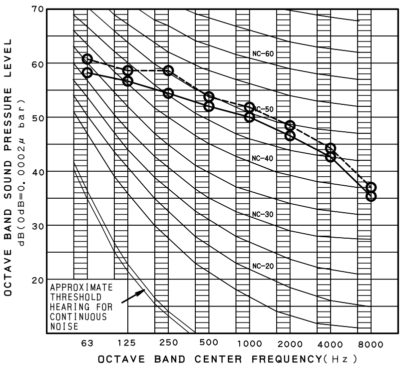
4D002416

R125FUY1(S)



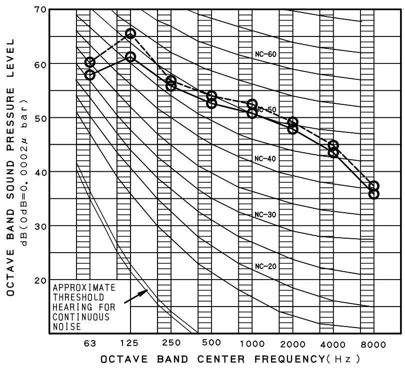
4D002417

RG140AY1



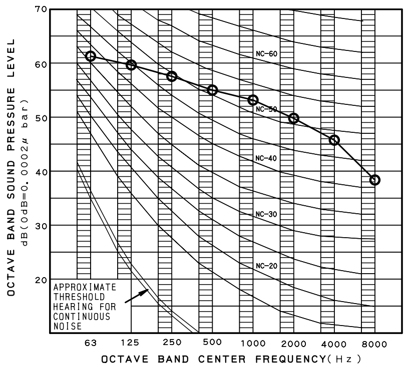
4D049426

RG180AY1



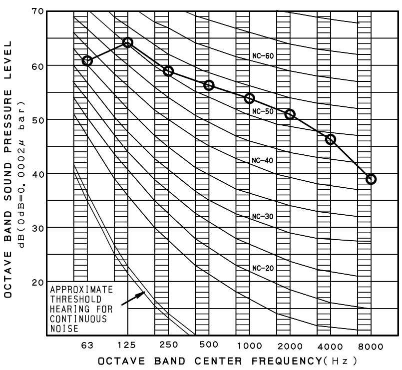
4D049423

RG140AY1S



4D049502

RG180AY1S



4D049501

Note:

○———○ Y1(S) : 380V
○ - - - -○ Y1 : 415V

13. Electric Characteristics

Unit combination		Power supply					Compressor		OFM		IFM	
Indoor	Outdoor	Hz - Volts	Voltage range	MCA	TOCA	MFA	LRA	RLA	kW	FLA	kW	FLA
FDMG71AV1(S)	RG71AV1(S)	50 - 220 50 - 230 50 - 240	Min. 198V Max. 264V	18.6	22.6	30	78	13.4	0.05	0.6	0.125	1.2
FDMG71AV1(S)	RG71AY1(S)	50 - 380/220 50 - 400/230 50 - 415/240	Min. 342V Max. 456V	7.4	8.8	15	35	4.5	0.05	0.6	0.125	1.2
FDMG100AV1(S)	R100FUV1(S)	50 - 220 50 - 230 50 - 240	Min. 198V Max. 242V	23.4	34.6	40	100	16.6	0.075 + 0.035	0.7 + 0.5	0.225	1.4
FDMG100AV1(S)	R100FUY1(S)	50 - 380/220 50 - 400/230 50 - 415/240	Min. 342V Max. 456V	9.5	9.6	15	45	5.5	0.075 + 0.035	0.7 + 0.5	0.225	1.4
FDMG125AV1(S)	R125FUY1(S)	50 - 380/220 50 - 400/230 50 - 415/240	Min. 342V Max. 456V	11.4	12.4	15	62	6.8	0.075 + 0.060	0.7 + 0.7	0.225	1.5
FDMG140AV1(S)	RG140AY1(S)	50 - 380/220 50 - 400/230 50 - 415/240	Min. 342V Max. 456V	12.8	17.9	20	70	7.9	0.07 + 0.06	0.7 + 0.6	0.225	1.6
FDMG180AV1(S)	RG180AY1(S)	50 - 380/220 50 - 400/230 50 - 415/240	Min. 342V Max. 456V	15.4	18.1	25	83	9.8	0.07 + 0.06	0.7 + 0.6	0.225	1.8

Symbols:

MCA : Min. Circuit Amps
TOCA: Total Over-current Amps
MFA : Max. Fuse Amps (See note 7)
LRA : Locked Rotor Amps
RLA : Rated Load Amps
OFM : Outdoor Fan Motor
IFM : Indoor Fan Motor
FLA : Full Load Amps
kW : Fan Motor Rated Output

Note:

1. RLA is based on the following conditions.
   Indoor temp. 27°CDB / 19.5°CWB
   Outdoor temp. 35°CDB
2. TOCA means the total value of each OC set.
3. Voltage range
   Units are suitable for use on electrical systems where voltage supplied to unit terminals is not below or above listed range limits.
4. Maximum allowable voltage unbalance between phases is 2%.
5. MCA/MFA
   MCA = 1.25 X RLA + ea. FLA
   MFA ≦ 2.25 X RLA + ea. FLA
   (Next lower standard fuse rating. Min. 15A)
6. Select wire size based on the larger value of MCA or TOCA.
7. Instead of fuse, use Circuit Breaker.

3D049371

14. Field Piping

14.1 Field Piping

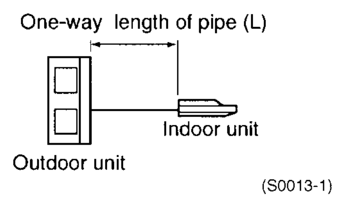
14.1.1 Maximum Allowable Piping Length and Level Difference

	RG71A, R100FU · 125FU, RG140A · 180A
Max. Allowable Piping Length	50 m (Equivalent Length 70 m)
Max. Allowable Level Difference	30 m

14.1.2 Additional Refrigerant Charge

- This unit requires additional charging of refrigerant according to the length of pipe connected at the site.
  The range where no charging is required. (RG71A, R100FU · 125FU, RG140A · 180A : 5 m or less.)
  Take the following steps for proper charging.

When connected to indoor unit



- Select the amount of refrigerant which matches a length which exceeds the charge-less length from Table 1 and 2, and add it.
  Write down the amount of extra refrigerant added in accordance with the precaution plate on the rear surface of the front plate, as this is necessary for after-sales service.

■ **RG71A, R100FU · 125FU**

Table 1 (The maximum allowable pipe length is 50 meters.) <Unit : kg>

Length of Pipe Connected (L)	5m	10m	15m	20m	25m	30m	35m	40m	45m	50m
Additional Charging Amount	—	0.13	0.25	0.38	0.50	0.63	0.75	0.88	1.00	1.13

■ **RG140A · 180A**

Table 2 Additional charging refrigerant amount

Additional charging refrigerant amount [ ] kg = (Piping length (L) [ ] m — 5m) 0.025 kg/m

<PRECAUTION>

- **Contact your DAIKIN dealer when installing the unit using pipes of 3 m or less.**

14.1.3 Recharging Refrigerant

■ **RG71A, R100FU · 125FU, RG140A · 180A**

When the entire refrigerant pipe length is within 5 meters, charge the refrigerant in accordance with the amount mentioned on the nameplate, and when the pipe length exceeds 5 meters, the charging amount is an addition of the amount stated on the nameplate and the additional charging amount.

1PN06338-1-1
1PN01324-1A-1
3PN06106-3C-1

14.1.4 Pumping-down Operation Method

Take the following steps to perform the pumping-down operation.

1. In case of **RG71A, R100FU · 125FU**

Procedure	Precautions
1. Connect a pressure gauge to the service port of the stop valve.	Carry out an air purge of the charge hose.
2. Perform fan operation by the remote controller.	Make sure that the liquid-side and gas-side stop valves are fully open.
3. Perform cooling operation by the remote controller.	Check that the compressor and outdoor fan are operation.
4. Run the unit for one minute until the operation stabilizes.	—
5. Close the liquid-side stop valve fully. (Refer to Fig.1)	If the valve is not fully closed it could cause burn-out of the compressor.
6. After the pressure gauge indication has dropped to 0 kgf/cm^{2}G, close the gas stop valve fully and press the Stop button on the remote controller.	—

This is the end of pumping-down operation.

2. In case of **RG140A · 180A**

Caution: Never short-circuit the low-pressure switch in this operation.

Procedure	Precautions
1. Perform cooling operation by the remote controller.	Confirm that stop valves both on the liquid and gas side are opened.
	Check that the compressor and outdoor fan are operating.
2. Continue operation for 1 minute until operation condition stabilizes.	—
3. Close the liquid-side stop valve fully. (Refer to Fig. 1)	Insecure closing of this valve may result in burning of the compressor.
4. When the low-pressure switch is activated, the unit stops working. At this time, close the stop valve on the gas side.	—
5. Turn off the remote controller.	—

This is the end of pumping-down operation.

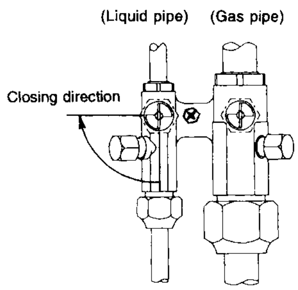


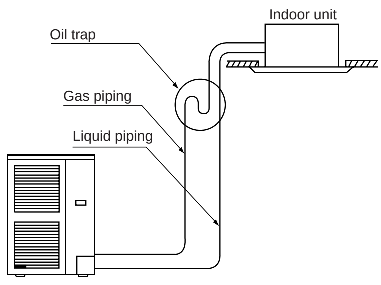
Fig. 1

(S0014)

■ **Necessity of a trap**

Since there is fear of the oil held inside the riser piping flowing back into the compressor when stopped and causing liquid compression phenomenon, or cases of deterioration of oil return, it will be necessary to provide a trap at an appropriate place in the riser gas piping.

■ **Trap installation spacing**



Note: A trap is not necessary when the outdoor unit is installed in a higher position than the indoor unit.

Caution to be taken when brazing refrigerant piping

- "Do not use flux when brazing copper-to-copper refrigerant piping. (Particularly for the HFC refrigerant piping) Therefore, use the phosphor copper brazing filler metal (BCuP) which does not require flux". (Flux has extremely harmful influence on refrigerant piping systems. For instance, if the chlorine based flux is used, it will cause pipe corrosion or, in particular, if the flux contains fluorine, it will damage the refrigerant oil. The use of flux is strictly forbidden since the cleaning on site is impossible.)

  (Remark) Keep in mind that if the phosphor copper brazing filler metal is used and the brazing temperature and the heating time exceed a certain point, the phoshor changes into the gaseous state
  (e.g . BCuP -1 to 5 : between 700 and 800°C) which causes pin holes and results in refrigerant leakage.

1PN06338-1-2
1PN01324-1A-2
3PN06106-3C-2

15. Installation

15.1 FDMG-AV1(S) Series

Cautions

1. Air conditioners should not be installed in areas where corrosive gases, such as acid gas or alkaline gas, are produced.
2. If the outdoor unit is to be installed close to the sea shore, direct exposure to the sea breeze should be avoided and choose an outdoor unit with anti-corrosion treatment.

INSTALLING THE INDOOR UNIT

1 Selecting the Location

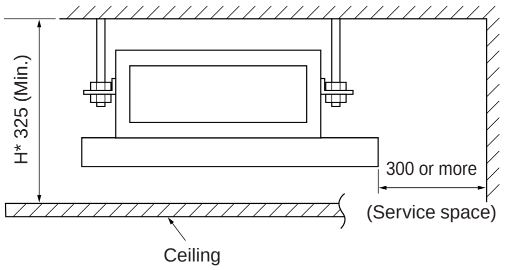
■ **Select an installation site that fulfills the following conditions and meets the customer's approval.**

- Optimum air distribution is ensured.
- The air passage is not blocked.
- Condensate can drain properly.
- The ceiling is strong enough to bear the weight of the indoor unit.
- A false ceiling does not seem to be at an incline.
- Sufficient clearance for maintenance and servicing is ensured.
- Piping between the indoor and outdoor units is within the allowable limits. (Refer to the installation manual for the outdoor unit.)
- The indoor unit, outdoor unit, power supply wiring and transmission wiring is at least 1 meter away from televisions and radios. This prevents image interference and noise in electrical appliances. (Noise may be generated depending on the conditions under which the electric wave is generated, even if a one-meter allowance is maintained.)
- Ambient air of the indoor unit is not so dusty.
  Drain piping may be clogged with dust and may result in water leakage and property damage.
  (When obliged to install the indoor unit in a dusty place, install the optional Dust Cover which prevent dust from falling into drain pan.)

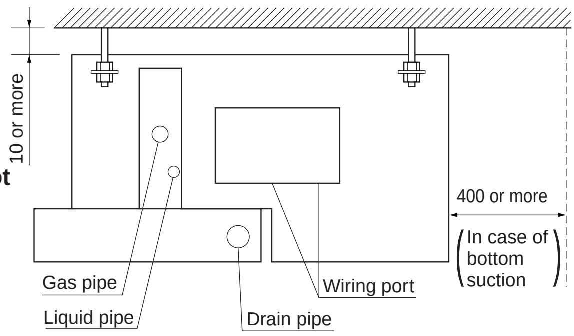
■ **When exposing the body of this unit, install the unit where the bottom is move than 2.5 m high so that the user can not touch.**

■ **Use suspension bolts to install the unit. Check whether or not the ceiling is strong enough to support the weight of the unit. If there is a risk that the ceiling is not strong enough, reinforce the ceiling before installing the unit.**

Units : mm



NOTES)
- Above H* is the minimum size of the indoor unit.
- Extra 20-30 mm is necessary to connect gas pipes. Determine size H* based on 1/100 of the required downward inclination indicated in "DRAIN PIPING WORK".



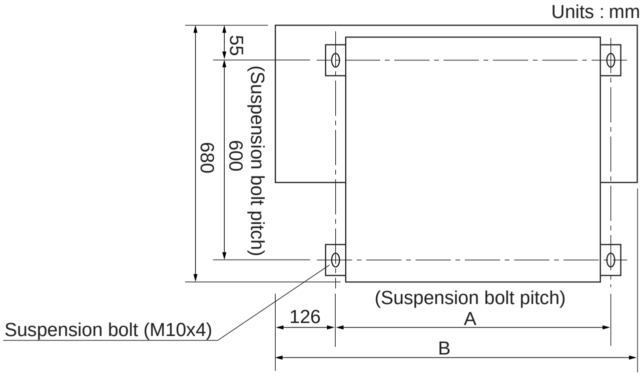
2 Preparations Before Installation

■ **Relation of the unit to the suspension bolt positions**

Units : mm

Model	A	B
FDMG71AV1	1203	1350
FDMG100 · 125 · 140AV1	1403	1550
FDMG180AV1	1753	1900

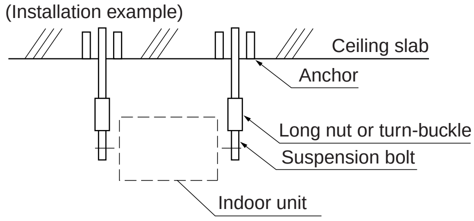
Units : mm



■ **Install the suspension bolts.**

(Use M10-size bolts for the suspension bolts.)
In order to reinforce the ceiling bearing the weight of the unit, use anchors when installing onto an existing ceiling or use sunken inserts, sunken anchors or other commercially available parts when installing onto a new ceiling.

(Installation example)



NOTE) All of the above parts are commercially available.

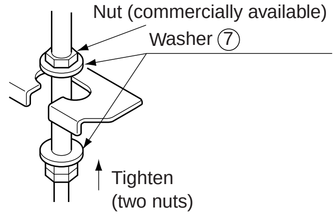
1PN06319-1B-1

3 Indoor Unit Installation

■ **While installing unit, take care that dust etc. should not drop into the drain pan.**

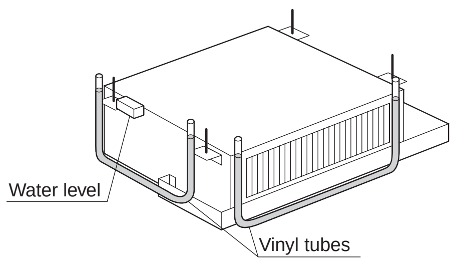
■ **Temporarily install the indoor unit.**

- Attach the hanger brackets to the suspension bolts. Be sure to use nuts and washers both above and below the hanger brackets to secure them.



■ **Use a water level or water-filled vinyl tubes to check that the unit is level at all four corners as shown in the drawing.**

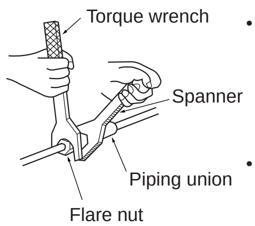
■ **Tighten the top nuts.**

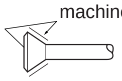


4 Refrigerant Piping Work

See the installation manual attached to the outdoor unit.
The outdoor unit is charged with refrigerant.

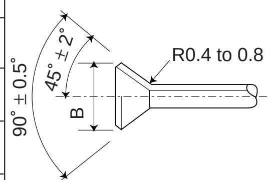
■ **Providing the connecting piping between the indoor unit and the outdoor unit**

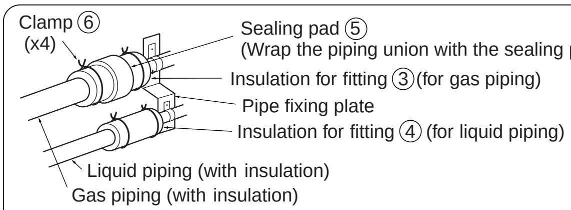




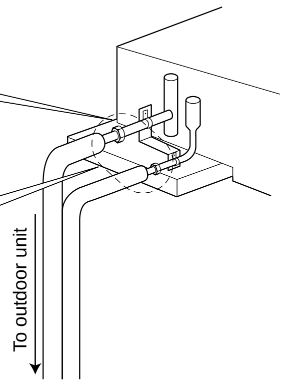
- Be sure to use both a spanner and a torque wrench together, as shown in the drawing, when connecting pipes to or disconnecting them from the unit.
- When connecting the flare nut, coat both the inside and outside with refrigerent machine oil. Then, tighten it 3 or 4 turns by hand before tightening it firmly.
- Refer to Table 1 to determine the power tightening torque. (Overtightening may damage the flare and cause leaks.)
- Check the pipe connections for gas leaks.

Table 1

Pipe gauge	Tightening torque	Flare dimension B (mm)	Flare shape
ø6.4	1420 to 1720N·cm (144 to 176kgf·cm)	8.3 to 8.7	
ø9.5	3270 to 3990N·cm (333 to 407kgf·cm)	12.0 to 12.4	
ø12.7	4950 to 6030N·cm (504 to 616kgf·cm)	15.4 to 15.8	
ø15.9	6180 to 7540N·cm (630 to 770kgf·cm)	18.6 to 19.0	
ø19.1	9720 to 11860N·cm (990 to 1210kgf·cm)	22.9 to 23.3	



- Install the insulation as shown in the drawing above.
(Install the insulation for the fittings attached to the pipe fixing plate.)
- Wrap the sealing pad ⑤ around only the union of the gas piping (over the insulation for fitting ③).

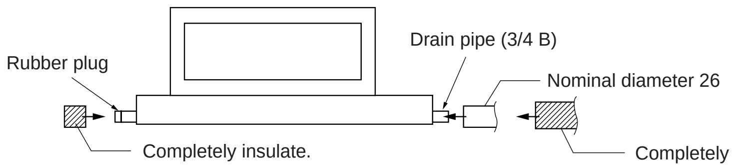


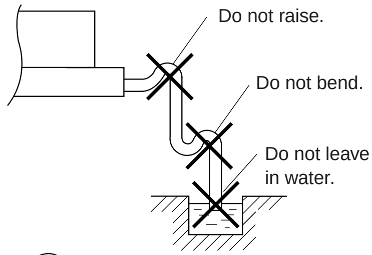
1PN06319-1B-2

5 Drain Piping Work

■ **Connect the drain pipe as described below.**

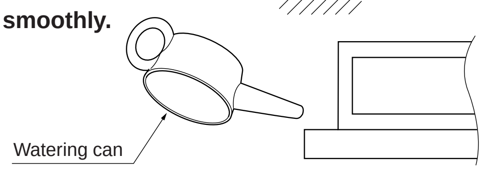
- It is necessary to clean the drain pan.
- The drain pipe outlet can be either on the right or left side.
- After making the connection, wrap the drain pipes completely with insulation.
- When connecting the drain pipe to the outlet on the left side, remove the rubber plug and attach it to the outlet on the right side.





■ **Pour some water into the drain pan to check that the water drains smoothly.**

■ **Make sure that water does not leak from the drain piping, connecting parts and the drain plug.**



6 Wiring

See the installation manual attached to the outdoor unit.

⚠ CAUTION

Ground the air conditioner.
When grounding the air conditioner, use a ground wire of 100 Ω or less.

■ **Field wiring connection method**

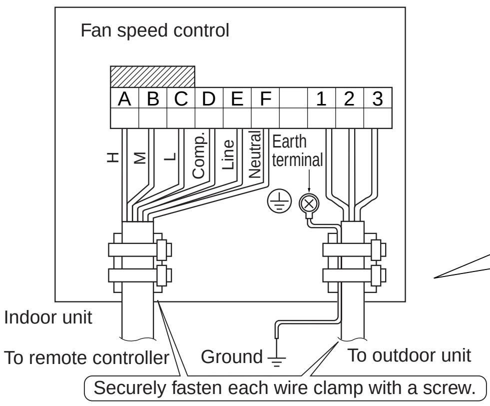
For details, follow the local applicable laws and regulations concerning electrical installations.

NOTE) A commercially available remote controller can be used if its specifications are compatible with those shown in the wiring diagram and technical materials.

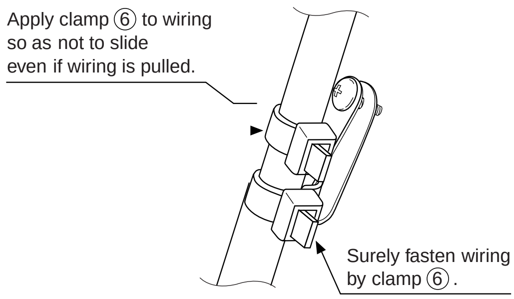
⚠ CAUTION

Be sure to use a 3-minute delay timer when starting the compressor, otherwise the compressor may not start.

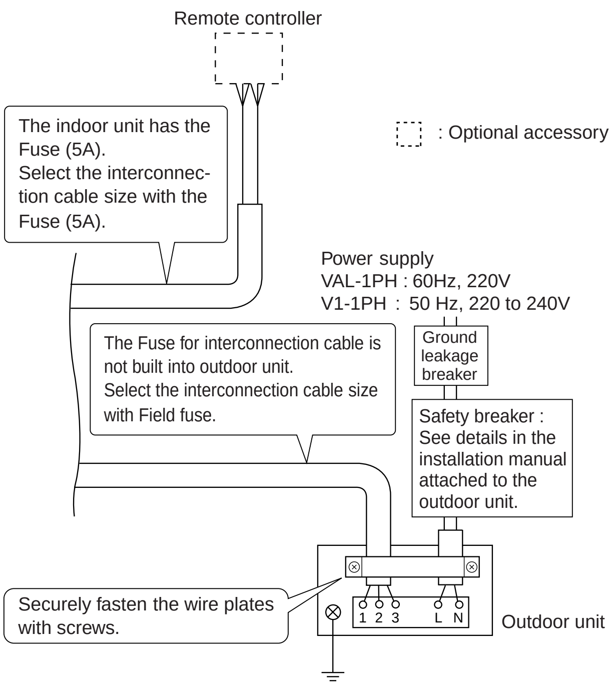
- When using a commercially available three speed remote controller, refer to the following.



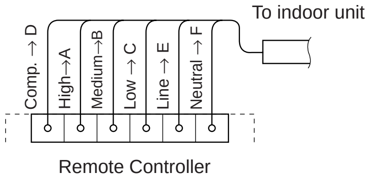
NOTE) Refer to the wiring diagram and to the installation manual of the remote controller.



1PN06319-1B-3

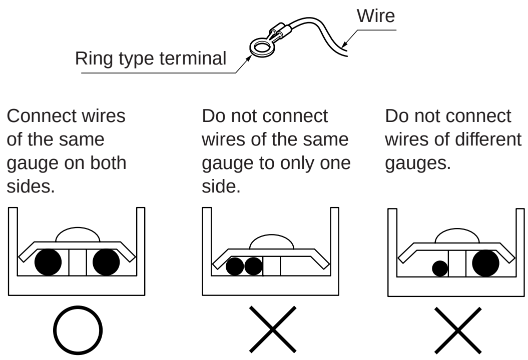


- When using the optional KRC47-1 or the KRC47-2 remote controllers, which have three fan speed settings, refer to the following.

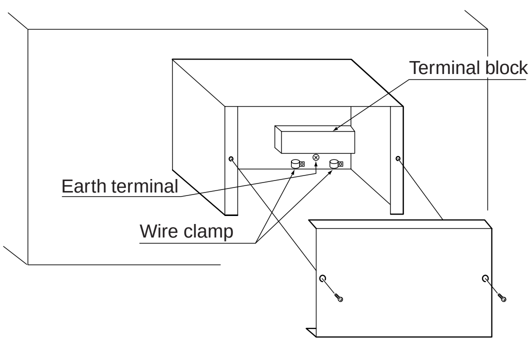


For more details, please see the manual of remote controller.

- Use ring type terminals for connections to the power supply terminal block.
  Where they can not be used, refer to the following.
- Observe the notes mentioned below while connecting wire to the power supply terminal board.
  Do not connect wires of different gauges to the same power supply terminal.
  (Looseness in the connection may cause overheating.)
  When connecting wires of the same gauge, connect them according to the figure on the right.

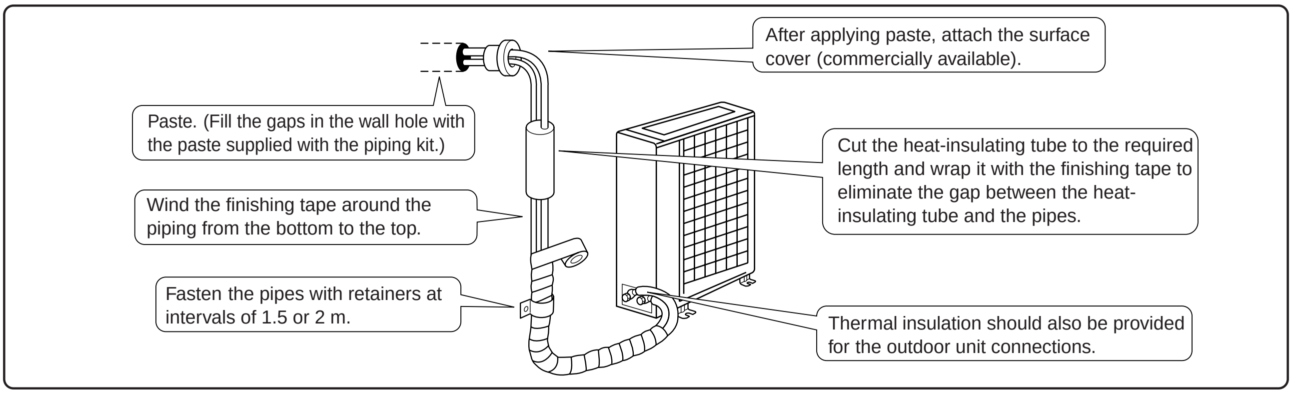


- Indoor unit



1PN06319-1B-4

7 Finishing the Piping Connections



INSTALLING THE OUTDOOR UNIT

<See the installation manual attached to the outdoor unit.>

C : 1PN06319-1B-5

Warning

- Ask a qualified installer or contractor to install this product. Do not try to install the product yourself. Improper installation can result in water or refrigerant leakage, electrical shock, fire or explosion.
- Use only those parts and accessories supplied or specified by Daikin. Ask a qualified installer or contractor to install those parts and accessories. Use of unauthorized parts and accessories or improper installation of parts and accessories can result in water or refrigerant leakage, electrical shock, fire or explosion.
- Read the User's Manual carefully before using this product. The User's Manual provides important safety instructions and warnings. Be sure to follow these instructions and warnings.

For any inquiries, contact your local distributor.

Cautions on product corrosion

1. Air conditioners should not be installed in areas where corrosive gases, such as acid gas or alkaline gas, are produced.
2. If the outdoor unit is to be installed close to the sea shore, direct exposure to the sea breeze should be avoided and choose an outdoor unit with anti-corrosion treatment.

The air conditioners manufactured by Daikin Industries have received **ISO 9001** certification for quality assurance.

Certificate Number. JMI-0107 JQA-0495 JQA-1452

All Daikin Industries locations and subsidiaries in Japan have received environmental management system standard **ISO 14001** certification.

Daikin Industries, Ltd. Domestic Group
Certificate Number. EC99J2044

About ISO 14001

ISO 14001 is the standard defined by the International Organization for Standardization (ISO) relating to environmental management systems. Our group has been acknowledged by an internationally accredited compliance organisation as having an appropriate programme of environmental protection procedures and activities to meet the requirements of ISO 14001.

Dealer

DAIKIN INDUSTRIES, LTD.
Head Office:
Umeda Center Bldg., 2-4-12, Nakazaki-Nishi, Kita-ku, Osaka, 530-8323 Japan
Tokyo Office:
JR Shinagawa East Bldg., 2-18-1, Konan, Minato-ku, Tokyo, 108-0075 Japan
http://www.daikin.com/global/

- The specifications, designs, and information in this brochure are subject to change without notice.

This book is made of recycled paper.
ED 40-437
Printed in Japan 06/2005 FS